**Colour Television** **Chassis**

**50ML8105D**
**(Archer 50” RPTV)**

Service
Service
**Service**

# Service Manual

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PHILIPS

# Preface

This manual is prepared for the maintenance service for 50" Rear Projection Multi-Purpose Display Unit. Maintenance procedures described in this manual are intended to isolate faulty parts and replace them in the field. It also aims to serve as a guide in procuring replacement parts for this product.

This manual is copyrighted and all rights are reserved. This product may not, in whole or in part, be copied, photocopied, translated or reduced to any electronic or machine readable form without prior written consent except for copies retained by the purchaser for backup purpose.

This manual includes basic specifications, major system assembly, components' description, and the "Troubleshooting" making explanations on how to detect errors. It also includes a flow chart for checking or correcting faults.

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**NOTICE :**

The information found in this manual is subject to change without prior notice. Any subsequent changes made in the data herein will be incorporated in further edition.

Revision List:

| | |
|---|---|
| 3122 785 15640 | First release |

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Chapter 1

# Introduction

## 1-1 Technical Specification

**Image performance**

| | |
|---|---|
| Color Temperature | 12,000°K |
| ANSI Brightness | Min. 300 Nits |
| Uniformity(JBMA) | Min. 70% |
| Image Size | Full Screen |
| Optical Overscan | 2.6+/- 10% |

**DLP Engine**

1.) Panel Specifications

| | |
|---|---|
| DMD Panel | Texas Instruments.12 deg HD4 |
| Diagonal | 0.556 inches |
| Pixel Pitch | 13.68micron H & V |
| Pixels | 1280(H)x720(V) pixels with Smooth Picture |
| Aspect Ratio | 16:9 |
| Colors | 16.7 million, 8 bits per color-RGB. |

2.) Bulb Assembly

| | |
|---|---|
| Bulb | 120 Watt Philips E23 |
| Bulb Wattage | 120 watts |
| Service | The bulb assembly shall be user replaceable from the front of the display. |

3.) Engine HD4

4.) Projection Screen

| | |
|---|---|
| Active Size | 50” Diagonal |
| Aspect Ratio | 16 : 9 |
| Active Horizontal Size | 43.58”(1106.9 mm) |
| Active Vertical Size | 24.51”(622.63 mm) |
| Screen Resolution | 1280x720 |

| | |
|---|---|
| On Axis Gain | 4.0+/- 0.6 based on screen spec. |
| Horizontal Viewing Angle (50%) | +/- 32.3 based on screen spec. |
| Vertical Viewing Angle (50%) | +/- 10 based on screen spec. |
| Lenticular Surface Treatment | Min. 1H |

**Input signal Characteristics**

1) Analog RGB input

| | |
|---|---|
| Connecotr(s) Type | D-sub 15 pin(PC) |
| Connector Location | On the back I/O of the unit. |
| Video Cable Length | Standard |
| Video Signals Level | 750 mV (PC) |
| Video Impedance | 75 Ohms |
| Maximum PC Video Signal | 950 mV with no damage to monitor |
| Sync Signals | TTL, 2.5V - 5.25V |
| Sync Compatibility | Separate Sync |
| Frequency | Fh = 30 - 64Khz , Fv = 50 - 75Hz |
| Mazimum Pixel Clock | 135Mhz |
| Resolution Compatibility | See Table 4.1 |
| Maximum Mode Change Blank Time | Max. 3 Seconds for recognized Timings. |
| Mode change Image | The Image shall Blank while the monitor changes modes. |

2) Table 6-1 VESA Monitor Timing Spec

| | Refresh | Horizontal | Pixel |
|---|---|---|---|
| **Resolution** | **Rate (Hz)** | **Frequencv (KHz)** | **Frequencv (MHz)** |
| 640 x 480 | 60 | 31.5 | 25.175 |
| 800 x 600 | 60 | 37.9 | 40.00 |
| **1024 x 768*** | **60** | **48.4** | **65.00** |
| 1280 x 720 | 60 | 45.0 | 74.25 |

*Compressed.

3) Video Input Interface

| Compatibility | NTSC (3.58 MHz/4.43 MHz), S-Video(Y/C), Component Video (Y,PBPR), Composite Video |
|---|---|
| Composite Video Input Connector | RCA Jack |
| Number of Composite Video inputs | Five (one in the front and four in the back) |
| Component Video in put Connectors | RCA Jacks, |
| HD inputs | Two (AV3 & AV4) in the back |
| S-Video Connector | Mini-Din |
| Number of S-Video inputs | Three (One in the front and two in the back, AV1, AV2) |
| HDMI input | HDMI (compatible with DVI) |

4) Power

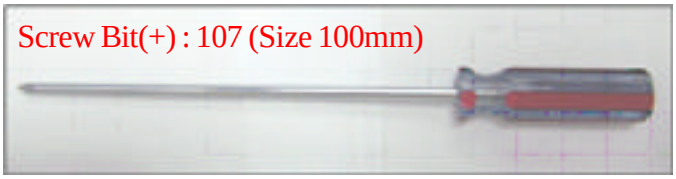
**Power Supply Operating parameters are listed here for convenience only. Actual Specification is govemed by separate "Power Supply Specification".

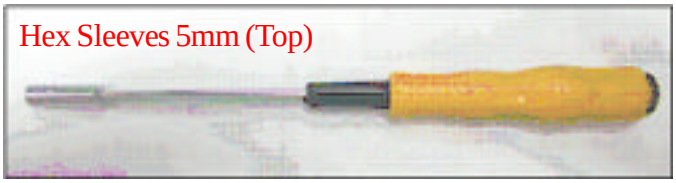
| Input Voltage Range | 100-240+/- 10% VAC Wide Range |
|---|---|
| Input Frequency | 47-63 Hz |
| Input Cureent | 4.5A @ 90VAC |
| Power Factor Correction | Compliant with IEC-1000-3-2 class D |
| Efficiency | >= 70% @ full load, nominal line |
| Leakage Current | <3.5Ma @ 250VAC |
| Power Consumption | 267W (Fully Active and Loaded)<br>6W (Max, when Power off) |
| Fast Transient Immunity | EN 55024:1998, EN6100-4-4, Power line:1KV,<br>Signal line:0.5KV, Performance Criteria B |
| Missing Cycle Immunity | Function properly without reset or visible screen artifact<br>when 1/2 cycle of AC POwer is randomly missing. |
| Power Supply Acoustics | Power Switch noise shall be Excluded. |
| Inrush Current | 60A max (cold start @Ta=25C) |

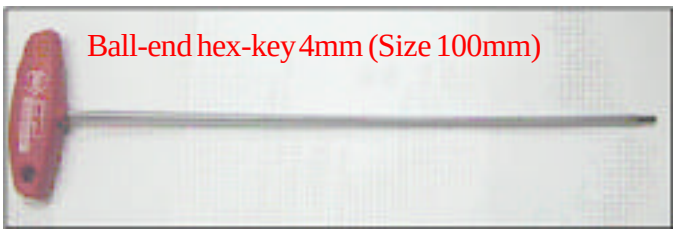
Chapter 2

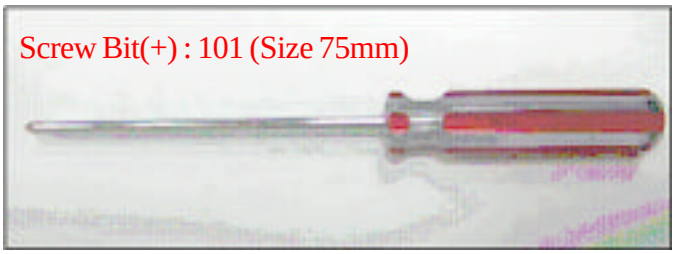
# Disassembly Procedure (In-House and On-site)

## Tools Needed



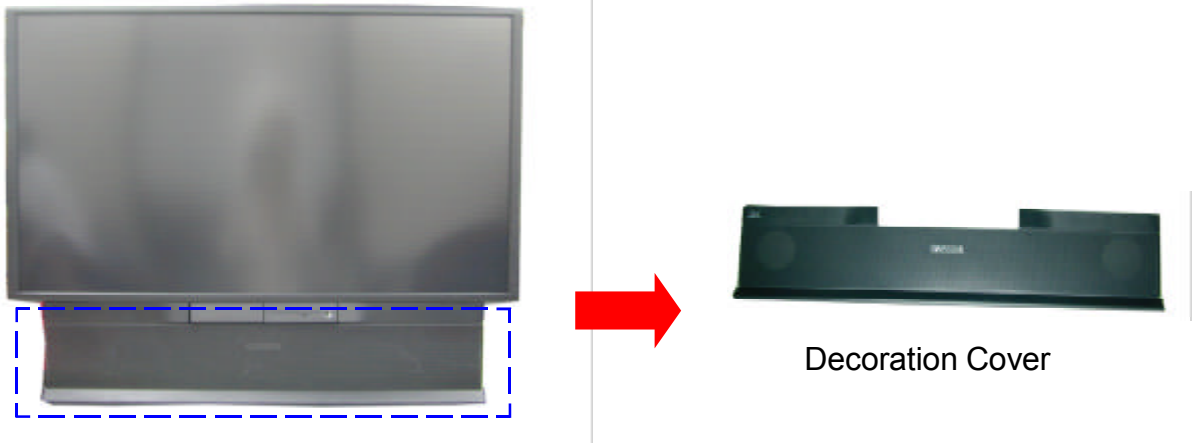





Wrench 7 (Size 7mm) for In-House only

# 2-1 Disassemble Lamp Module

1. Remove Decoration Cover



Decoration Cover

2. Unscrew 2 screws and then remove Lamp Cover (as the two red circles show).

Lamp Cover

3. Loosen 3 screws and then remove the Lamp Module.

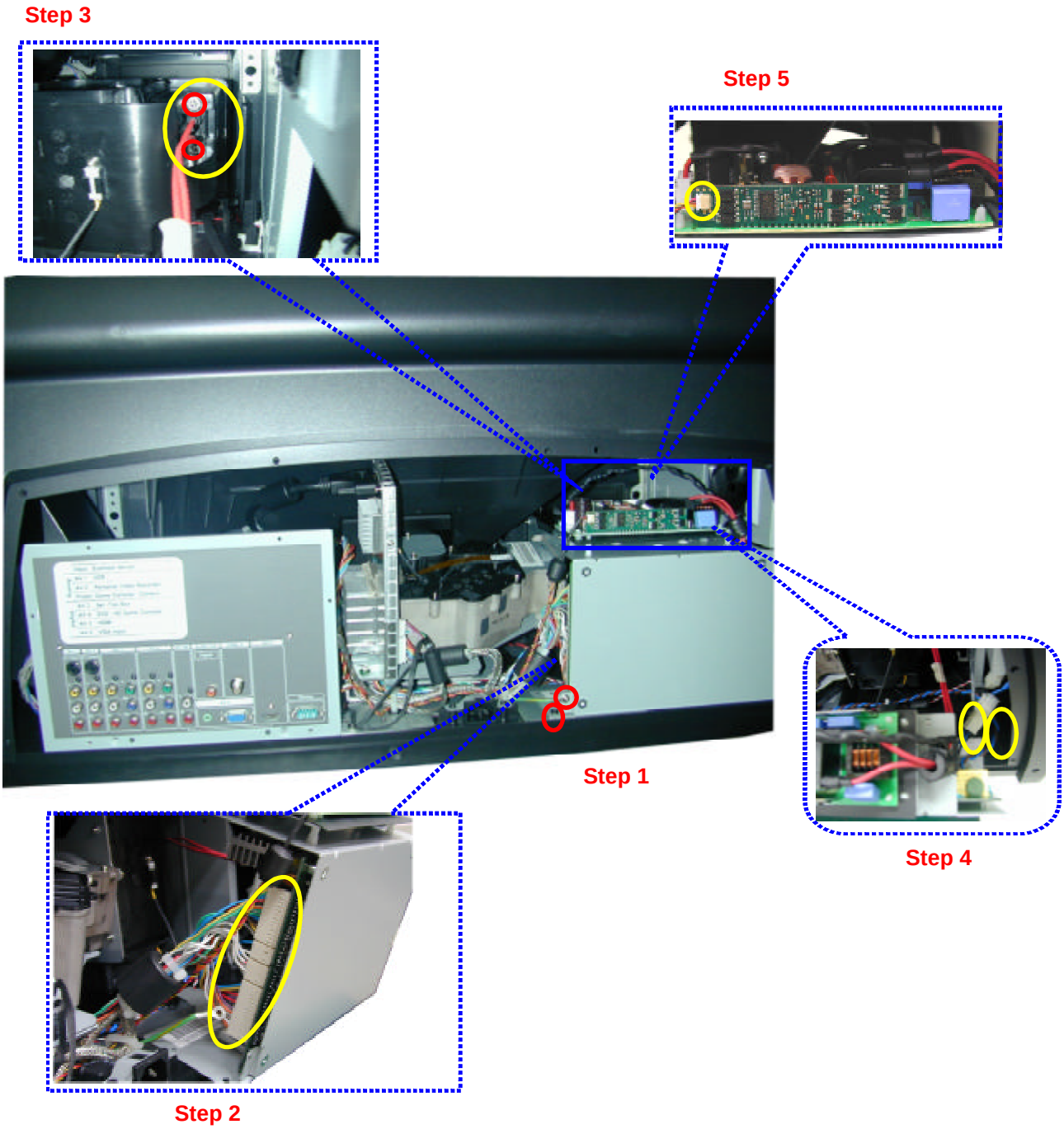
Lamp Module

## 2-2 Disassemble Rear Service Cover and Power Supply Module

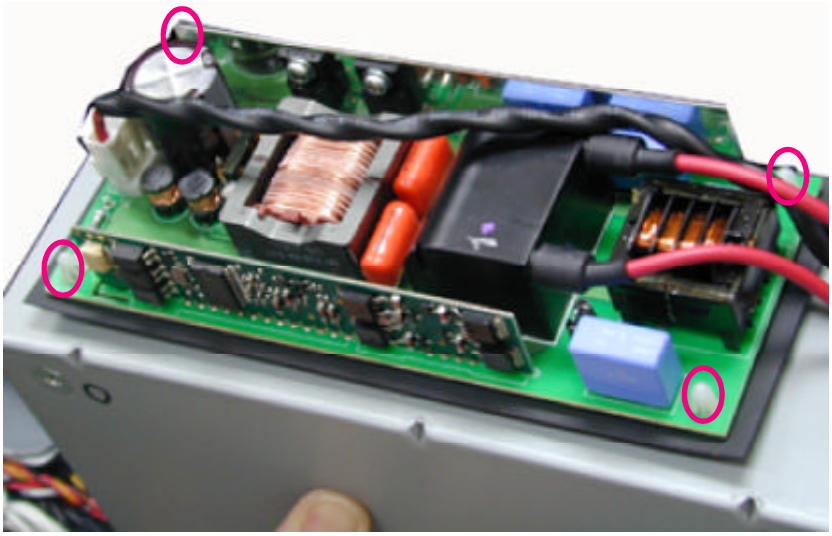
1. Unscrew 16 screws and then remove the Rear Service Cover.

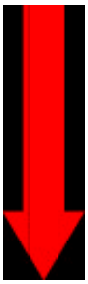
Rear Service Cover

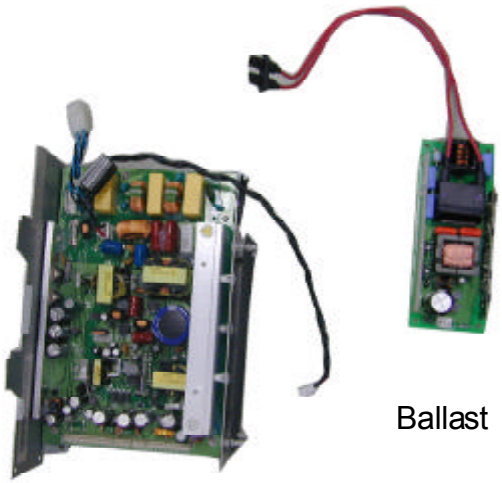
2. Unscrew 2 screws (step 1), unplug 4 connectors (step 2), unsrew 2 screws (step 3),unplug 2 connectors (step 4) and 1 connector (step 5) to remove Power Supply Module.



3. Unscrew 4 tenons shown in the pink circle to remove Ballast from LVPS.





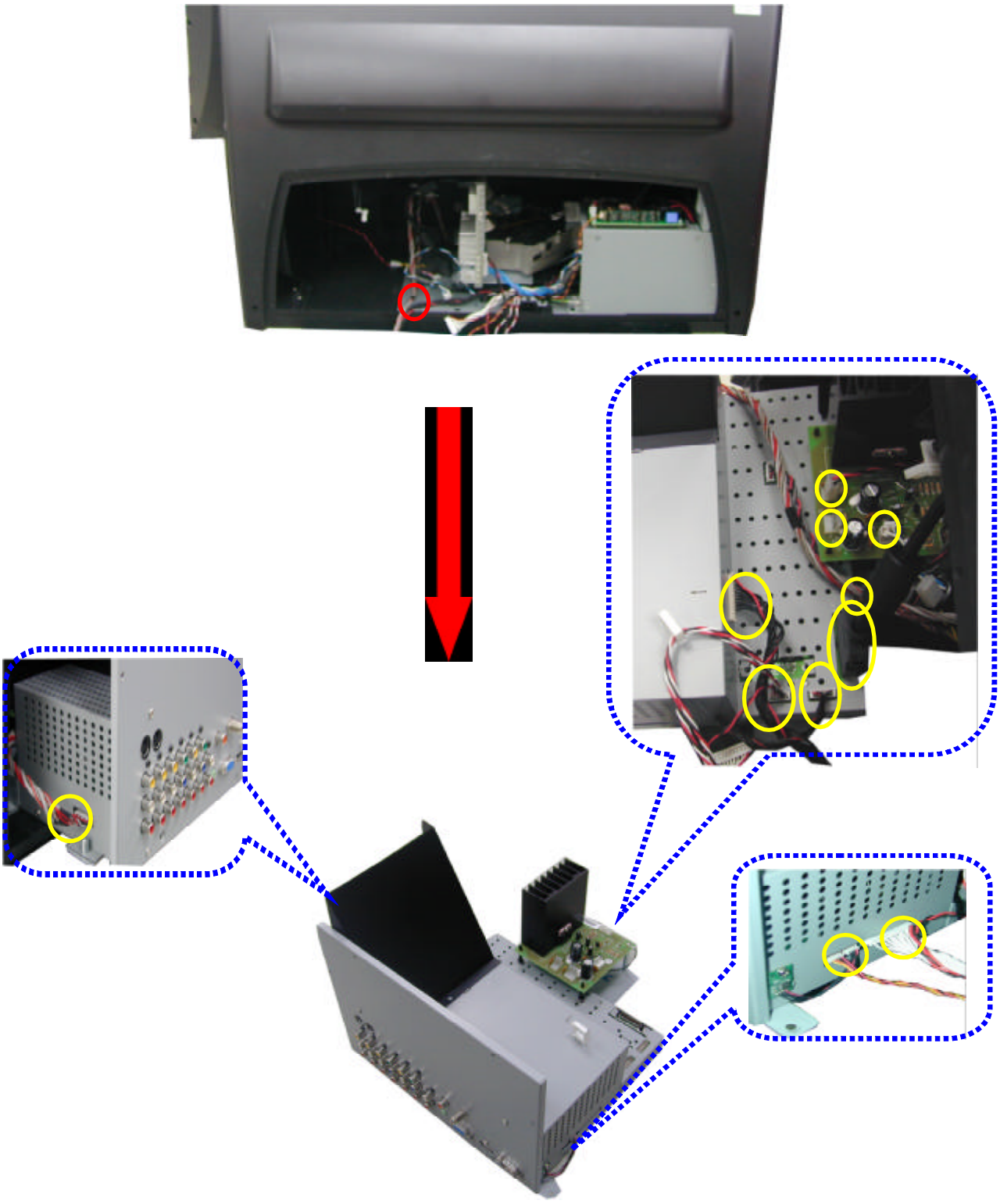


Ballast

LVPS

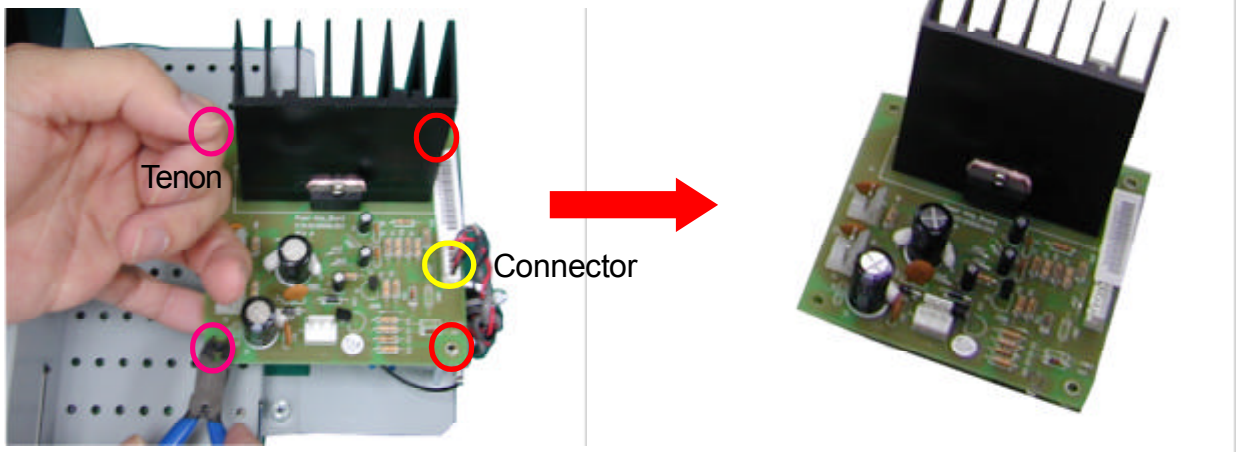
## 2-3 Disassemble Main Board Module and Amplifier Board

1. Unscrew 1 screw shown in the red circle and unplug 11 connectors shown in the yellow circle to pull out Main Board Module.



Main Board Module

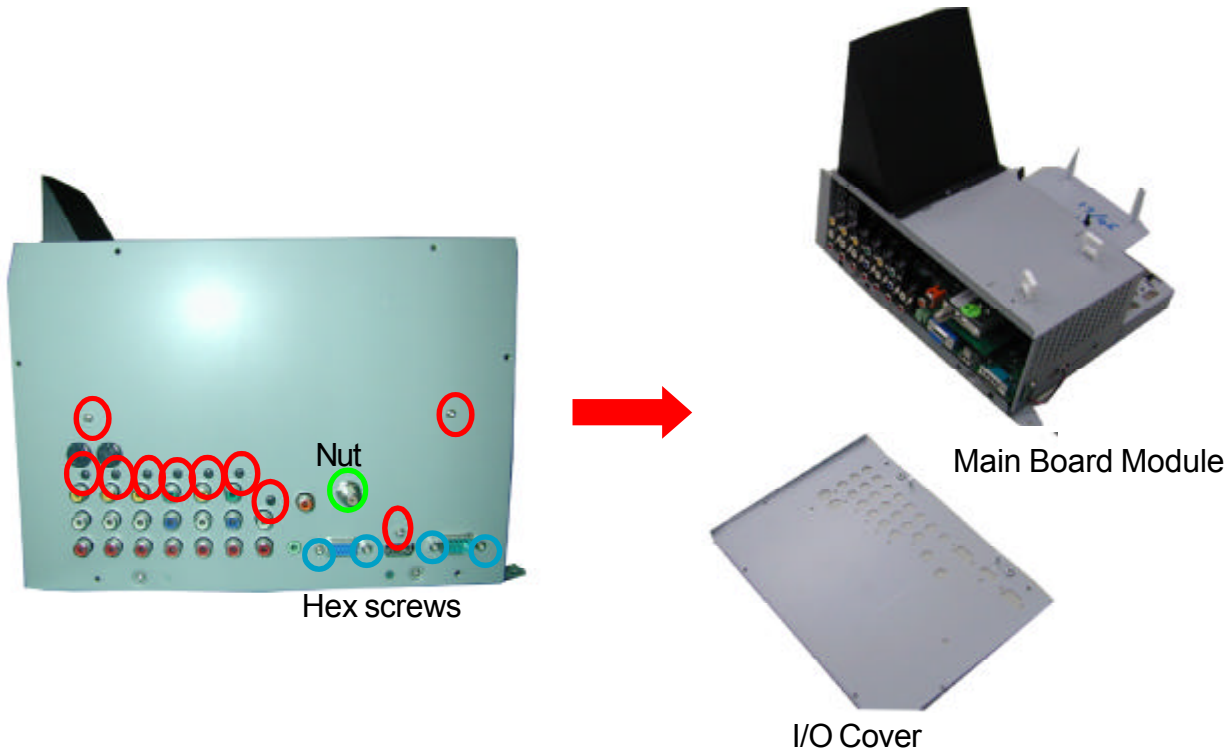
2. Unscrew 2 screws, loosen 2 tenons and disconnect the connector to remove Amplifier Board from Main Board Module.




Main Board Module

Amplifier Board

3. Unscrew 12 screws, 1 nut and 4 hex screws to remove Main Board Cover from Main Board Module.

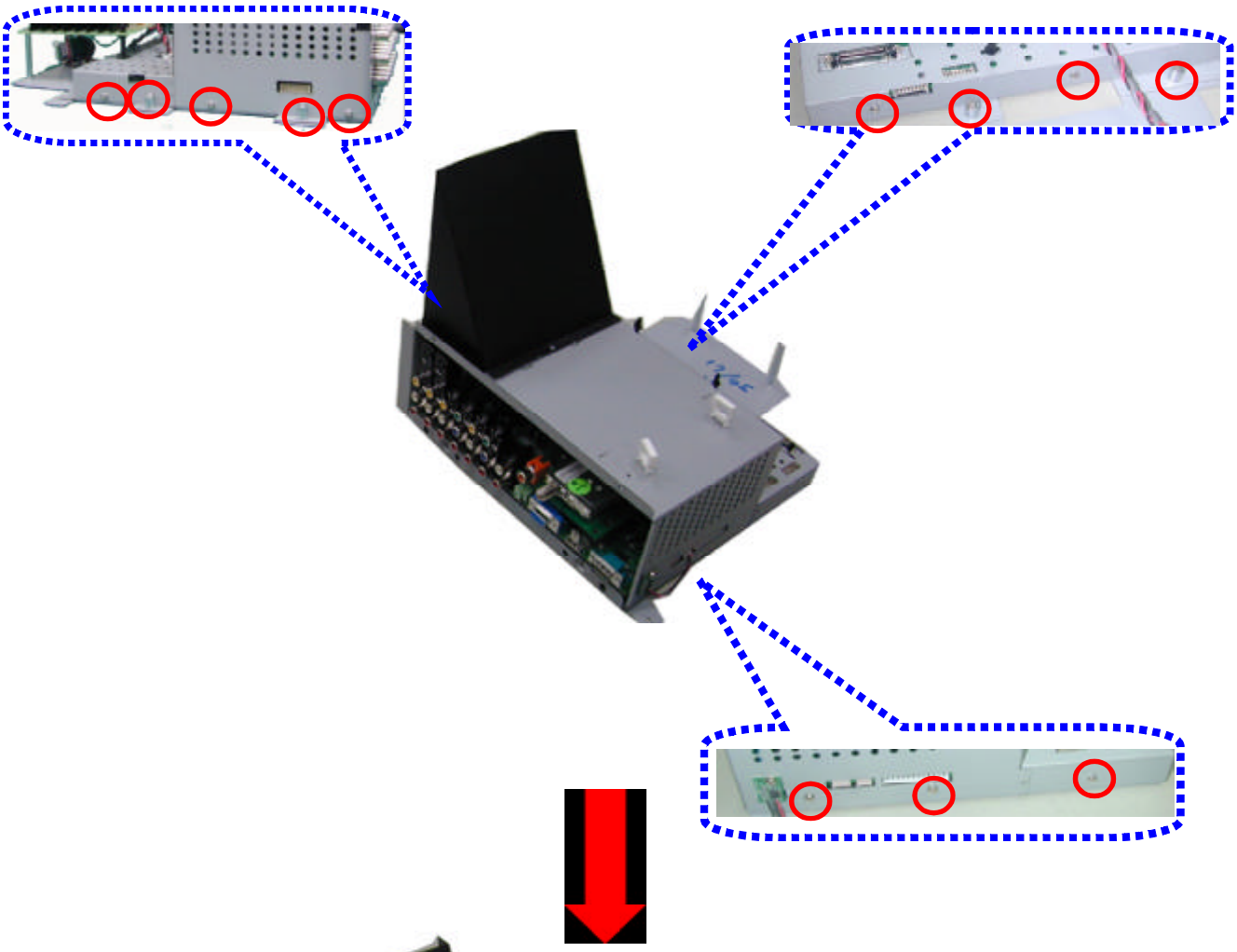



Hex screws

Main Board Module

I/O Cover

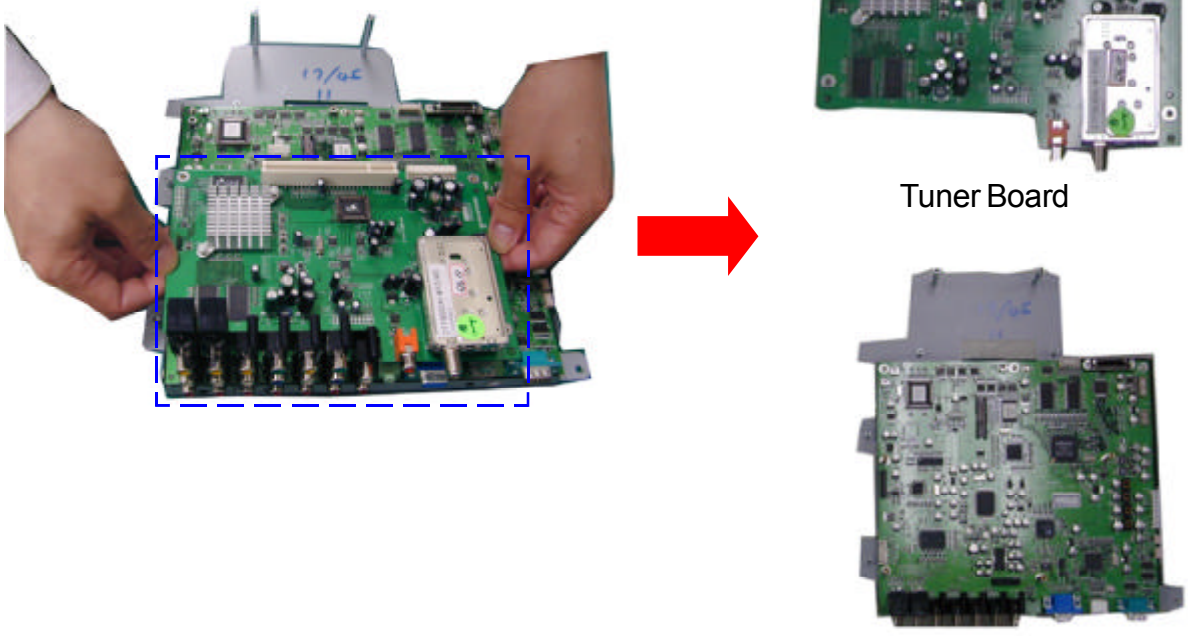
4. Unscrew 12 screws to remove Main Board Cover.



Main Board Cover

Main Board Module

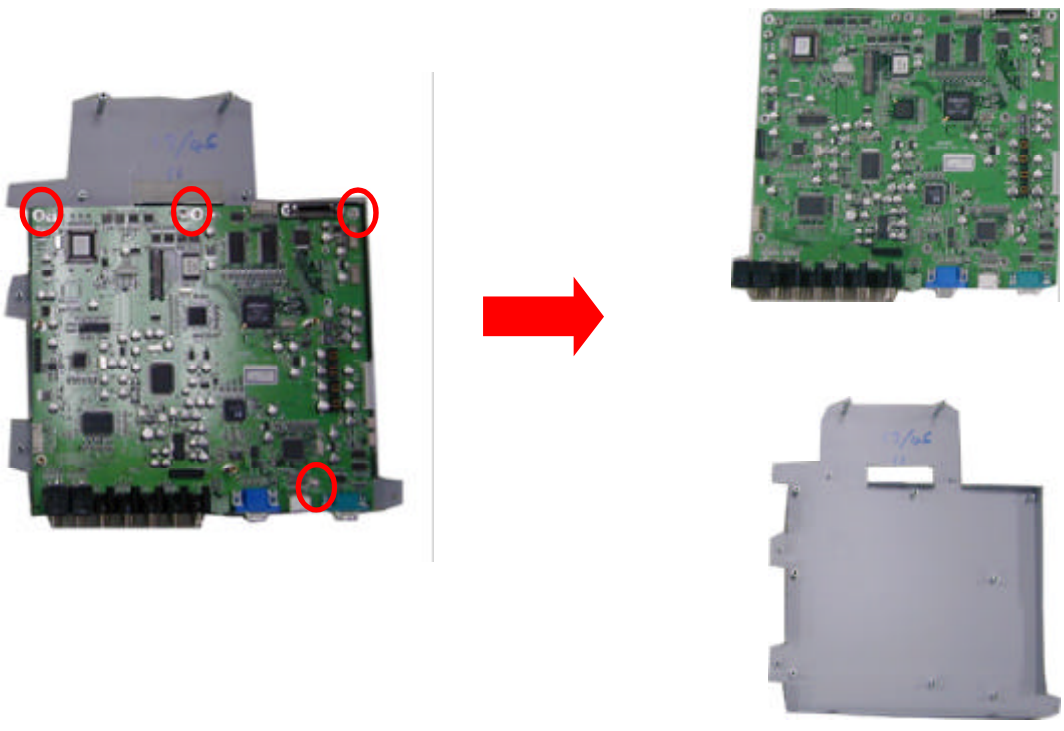
5. Lift up Tuner Module and directly pull it out.



Tuner Board

Main Board

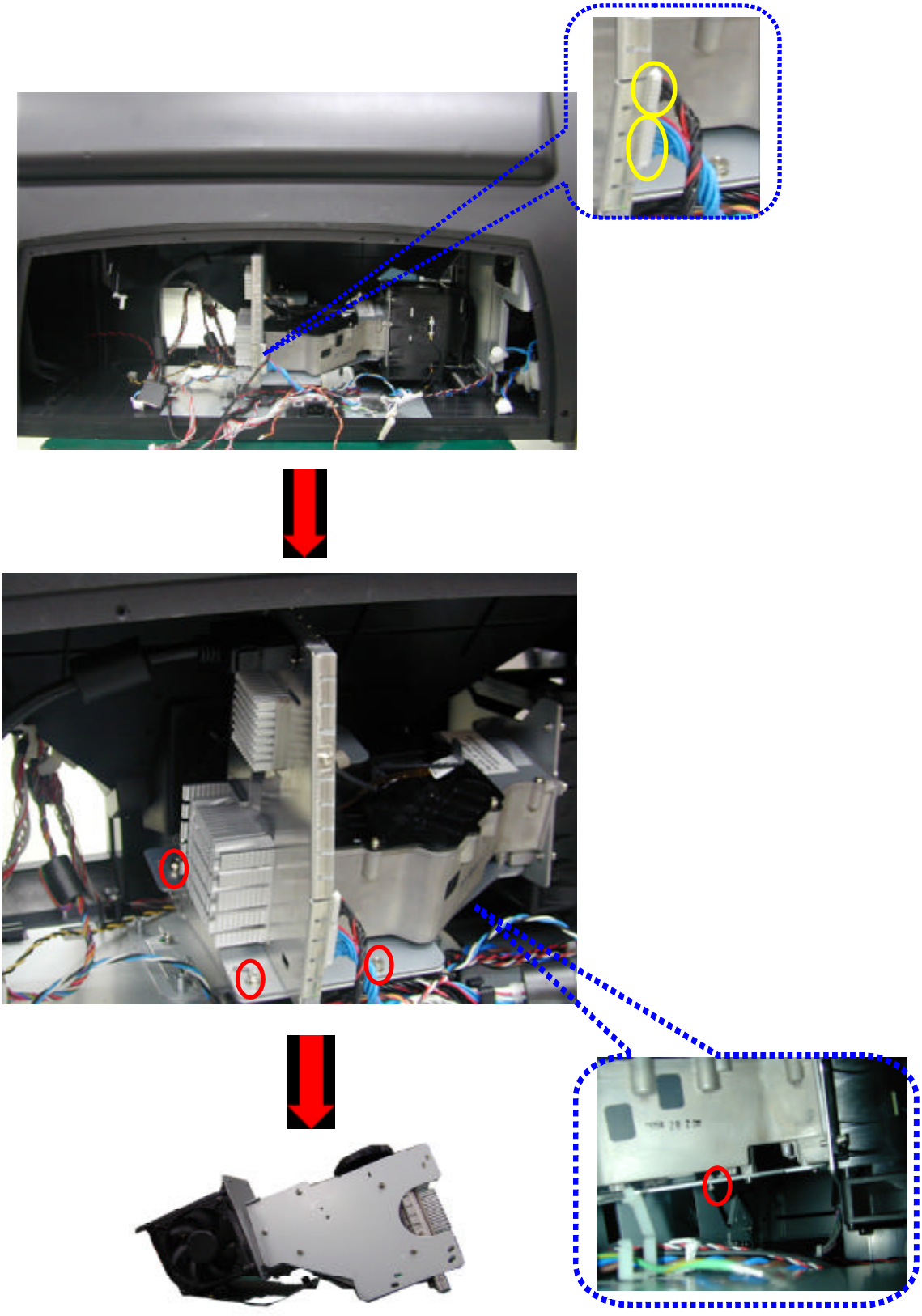
6. Unscrew four screws to remove Main Board from Chassis.



Chassis

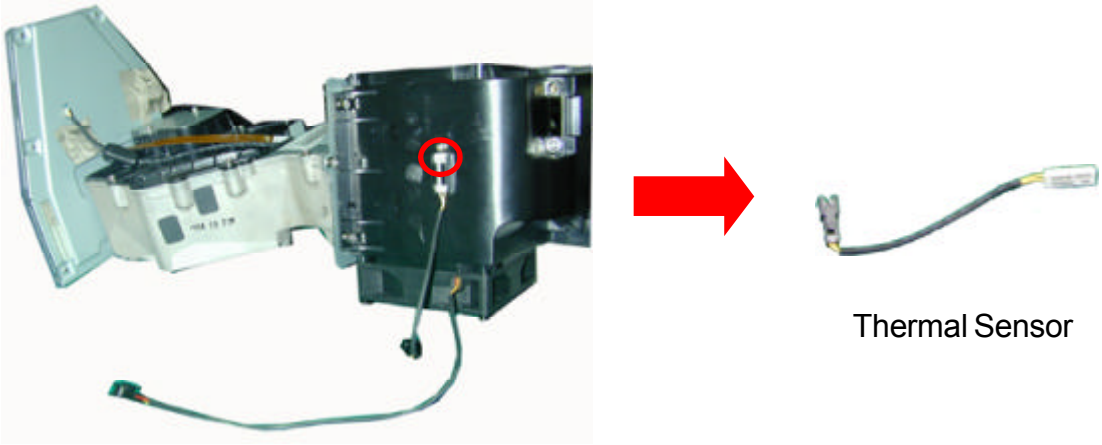
# 2-4 Disassemble Engine Module, Formatter Board, DMD Chip (In-House only)

1. Disconnect 2 connectors and unscrew 4 screws to remove Engine Module.



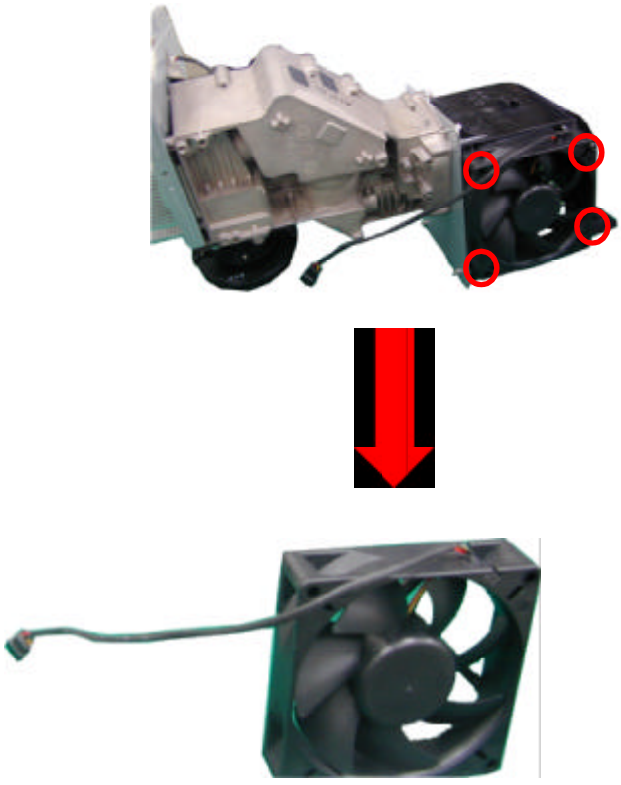
Engine Module

2. Unscrew 1 screw to remove Thermal Sensor.



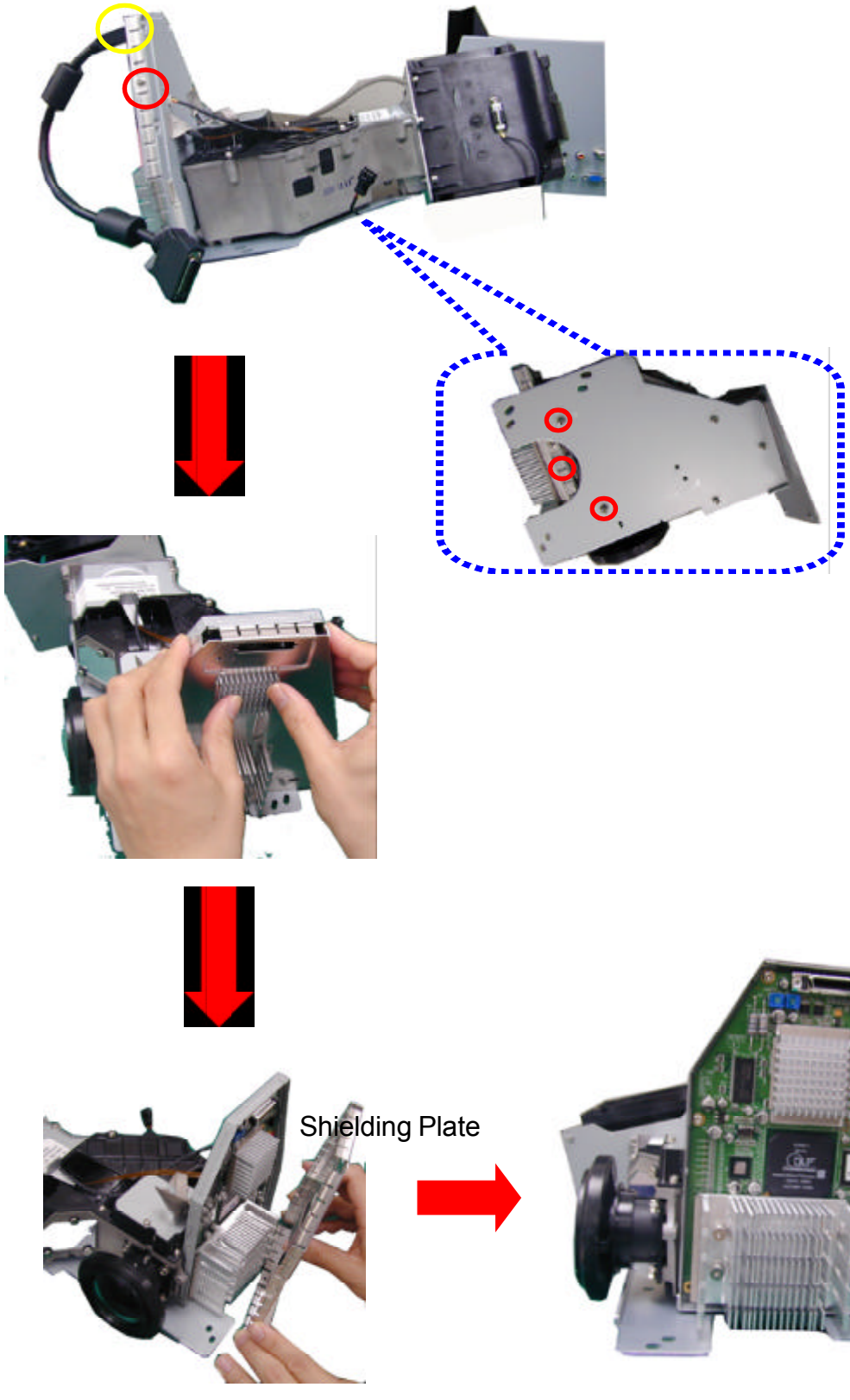
Thermal Sensor

3. Unscrew 4 screws to remove Lamp Fan Module.

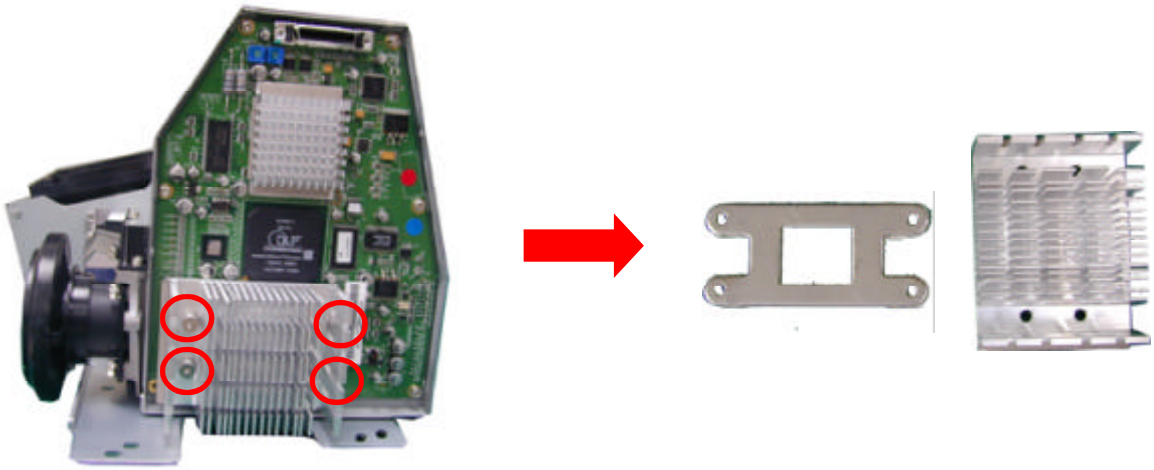


***Note: Screw binding tape should be replaced after being torn off.**

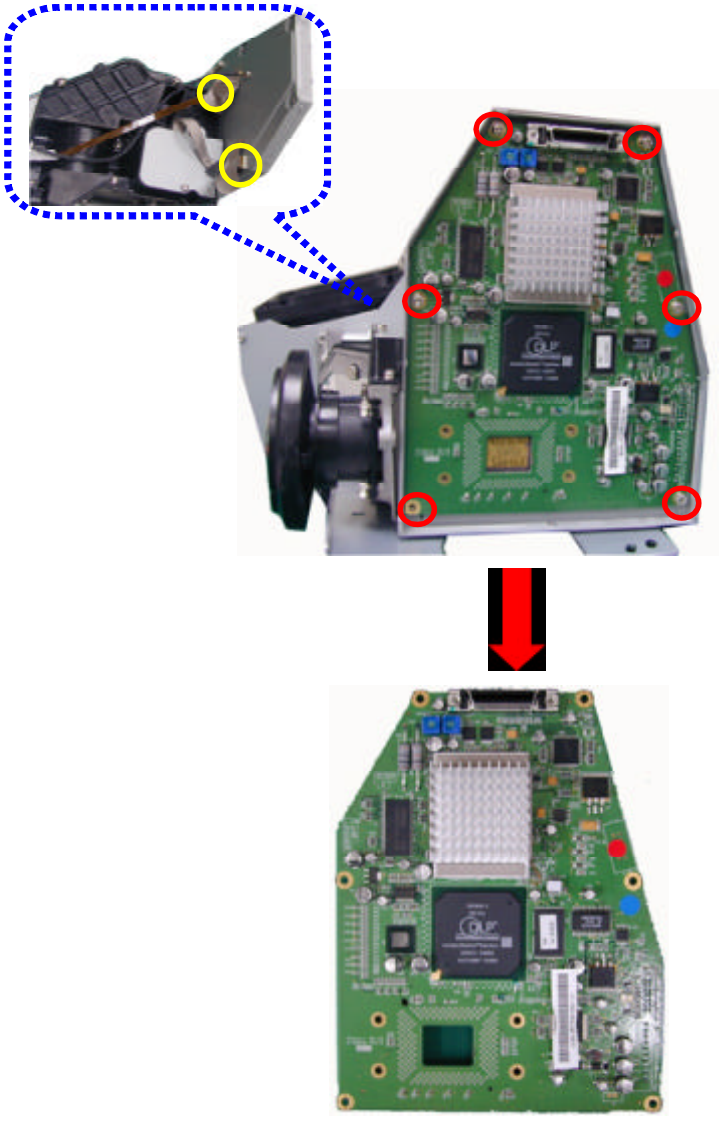
4. Disconnect one cable FFC and unscrew 4 screws to remove Shiedling Plate.



5. Unscrew 4 screws to remove Sink

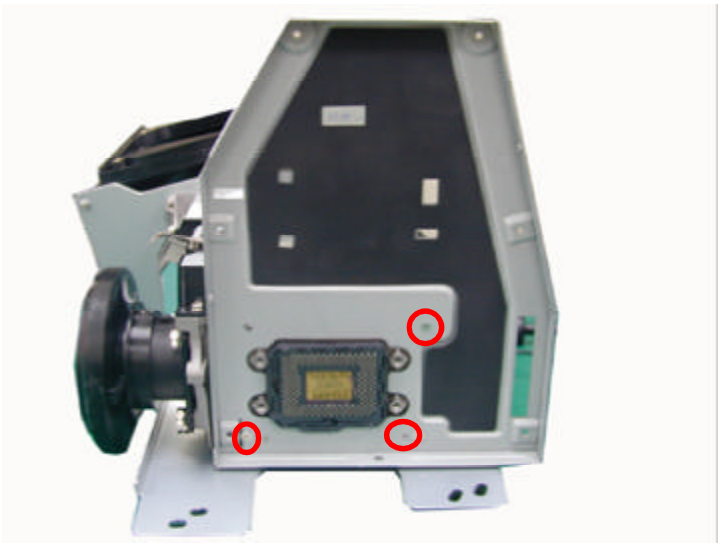


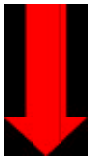
6. Unscrew 6 screws and unplug two wires to remove Formatter Board.



Formatter Board

7. Unscrew 3 screws to remove DMD Chip.

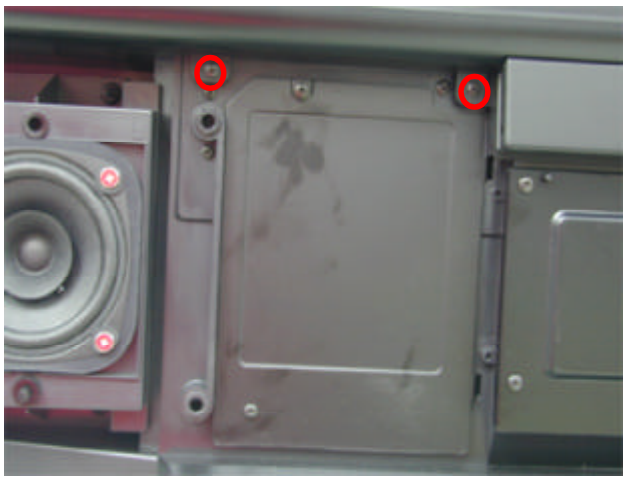


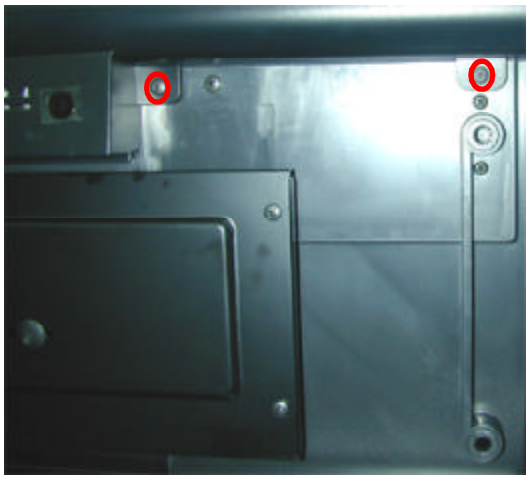


# 2-5 Disassemble Screen Module and Keypad Board

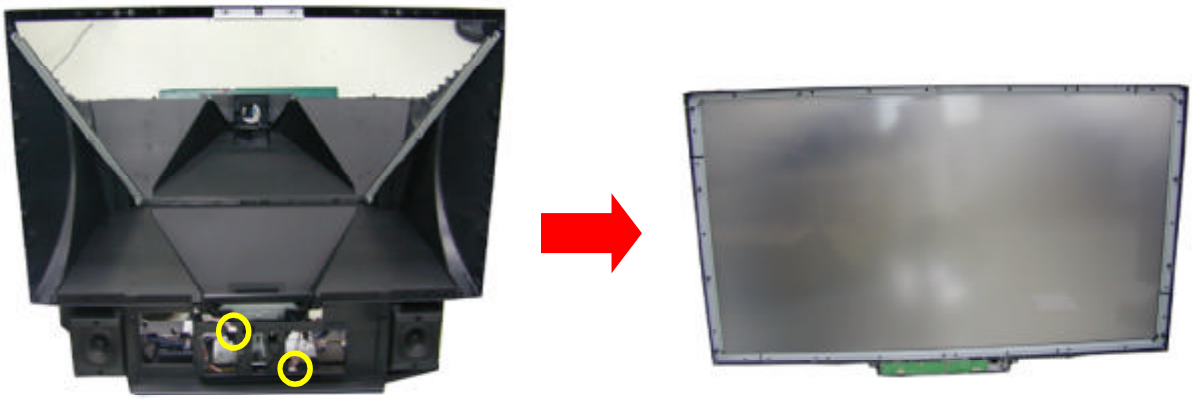
1. Unscrew 11 screws from the rear side.

2. Unscrew 4 screws from the Front Side.



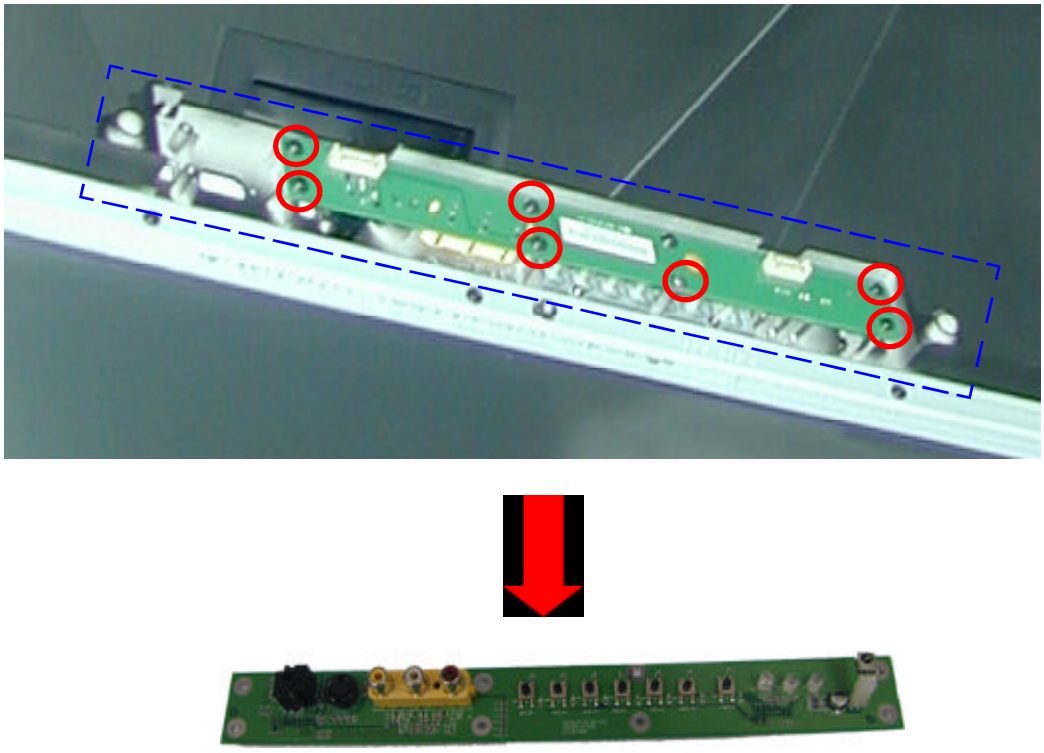


3. Disconnect 2 connectors to remove Screen Module.



Screen Module

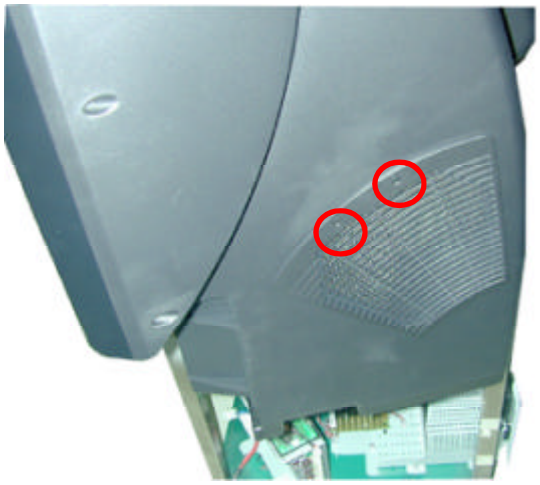
4. Unscrew 7 screws to remove Keypad Board.



Keypad Board

# 2-6 Disassemble System Fan Module and Speakers

1. Unscrew 2 screws to remove Air Vent.



Air Vent

2. Unscrew 2 screws to remove System Fan Module.

System Fan Module

3. Remove Speaker Cover.

Left Speaker

Right Speaker

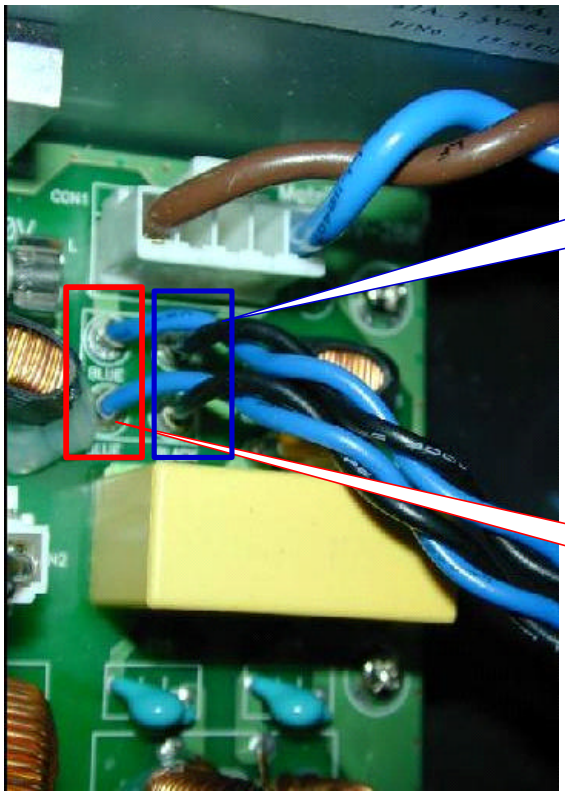
Speaker

**Note:** **Red cable connect to Speaker ⊕**
**Black cable connect to Speaker ⊖**

# 2-7 Voltage Measurement

## A. Voltage test pin of LVPS

### A-1

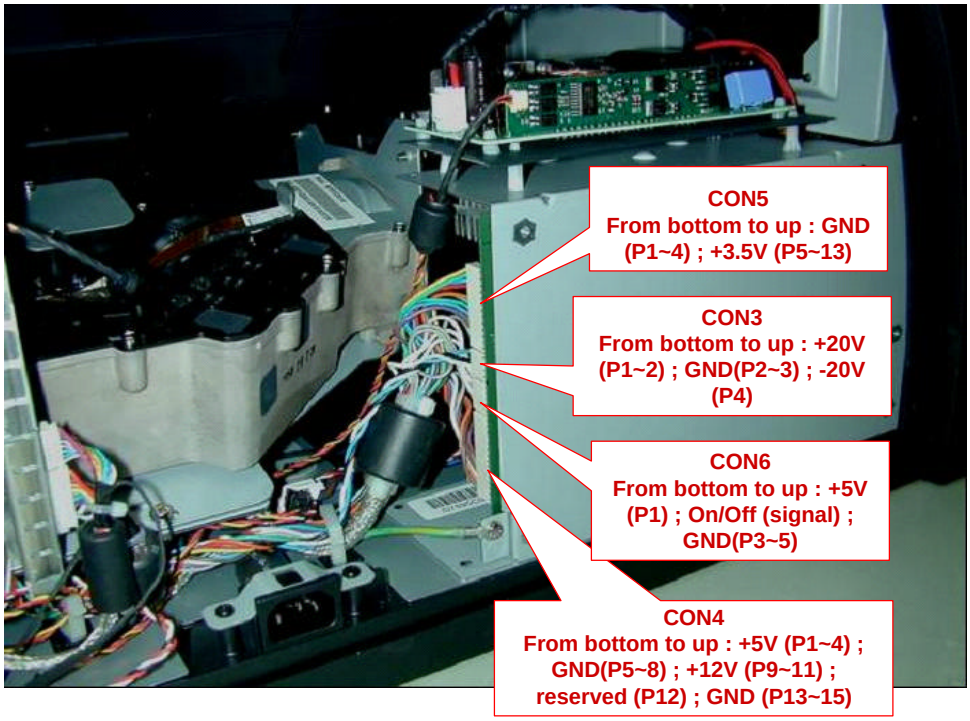


**SW1 (black wire)**
**Check "Main switch" &" Inetr-Lock switch" function by multi-meter (0 ohm)**

**Main Switch**

**SW1**
**Check "Main switch" function by multi-meter (0 ohm)**

### A-2



**CON5**
**From bottom to up : GND (P1~4) ; +3.5V (P5~13)**

**CON3**
**From bottom to up : +20V (P1~2) ; GND(P2~3) ; -20V (P4)**

**CON6**
**From bottom to up : +5V (P1) ; On/Off (signal) ; GND(P3~5)**

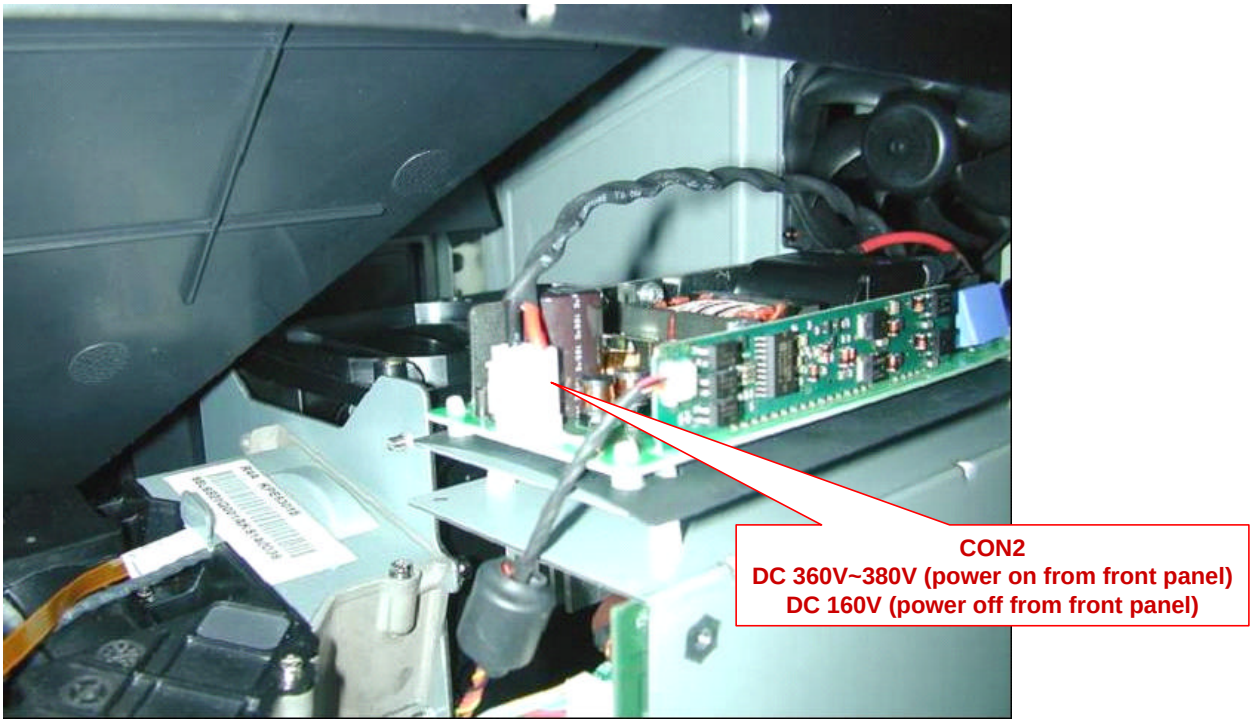
**CON4**
**From bottom to up : +5V (P1~4) ; GND(P5~8) ; +12V (P9~11) ; reserved (P12) ; GND (P13~15)**

**NOTICE:**
**You must turn unit on by pressing power button, otherwise you can't get any voltage output (Con3~5) from LVPS.**

## A-3

1. No power (Con6) : it should be LVPS dead.
2. No power (Con3) :
   - Voltage output when remove connector wire from LVPS. (it may “audio board” fail.)
   - Voltage still can’t output when remove connector wire from LVPS. (it may “LVPS” fail.)
3. No power (Con4) :
   - Voltage out when remove connector wire from LVPS. (it may “main board” fail.)
   - Voltage still can’t output when remove connector wire from LVPS. (it may “LVPS” fail.)
4. No power (Con5) :
   - Voltage out when remove connector wire from LVPS. (it may “formatter board” fail.)
   - Voltage still can’t output when remove connector wire from LVPS. (it may “LVPS” fail.)

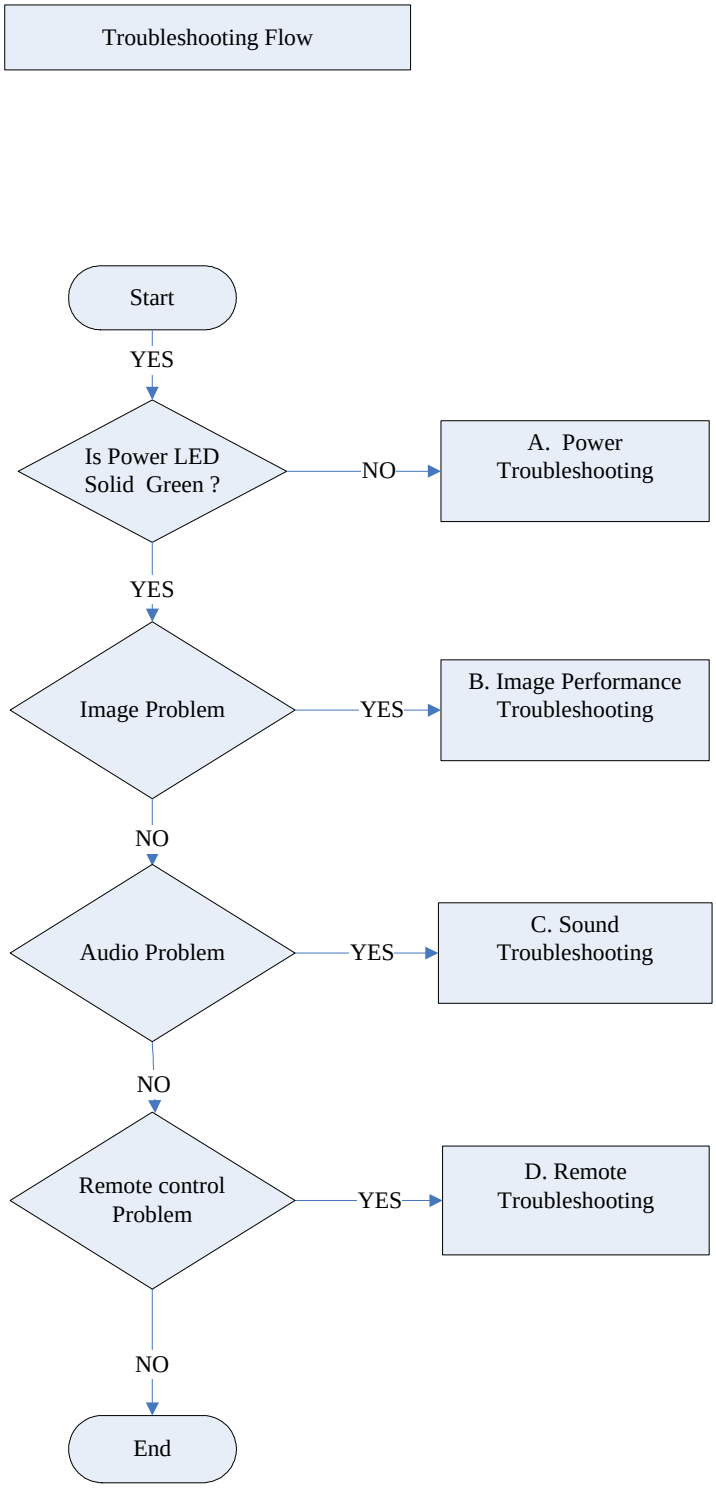
## B. Voltage test pin of Lamp Driver



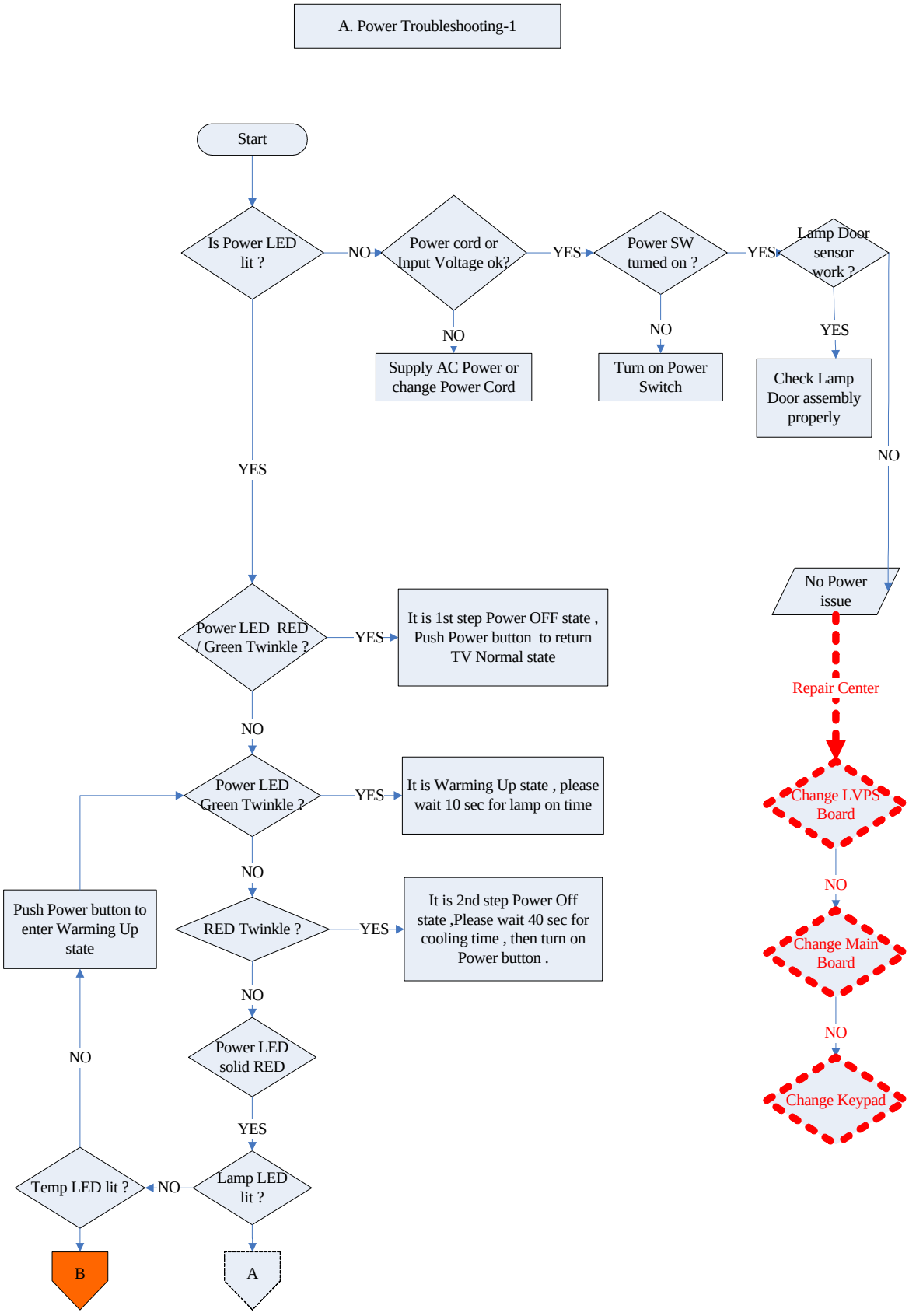
Chapter 3

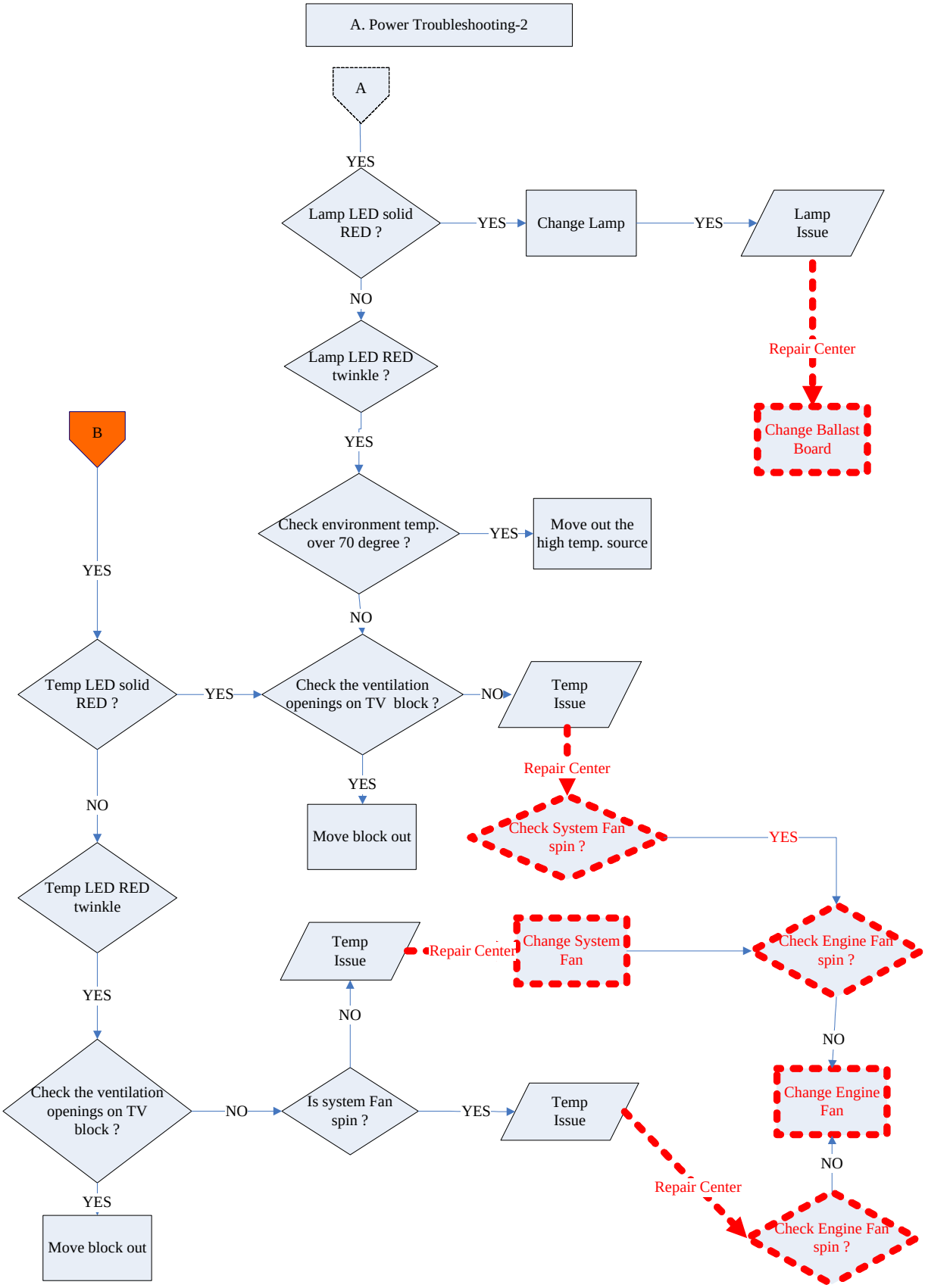
# Troubleshooting

## 3-1 Main Procedure

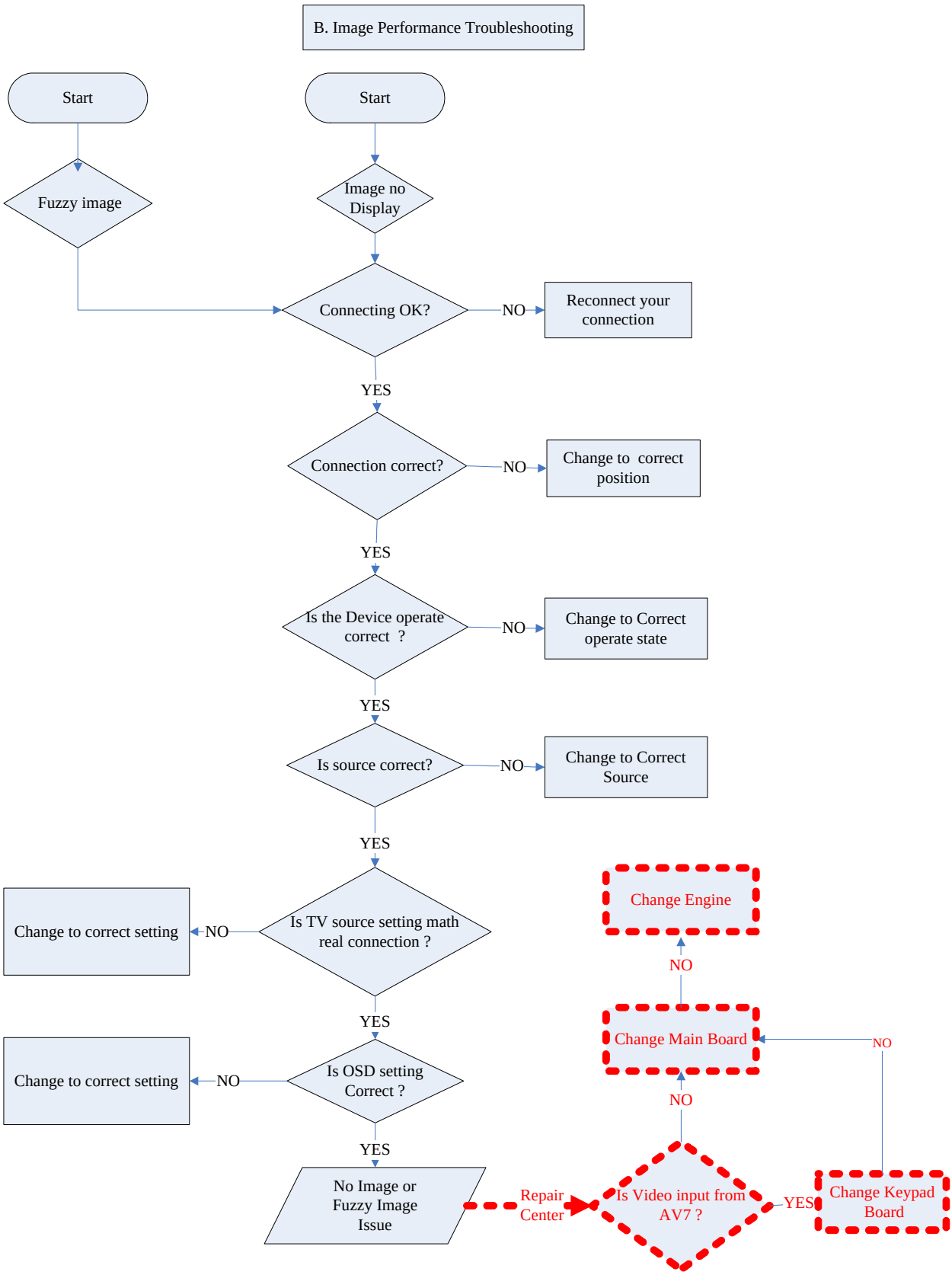


# 3-1.1 A. Power Trouble Shooting

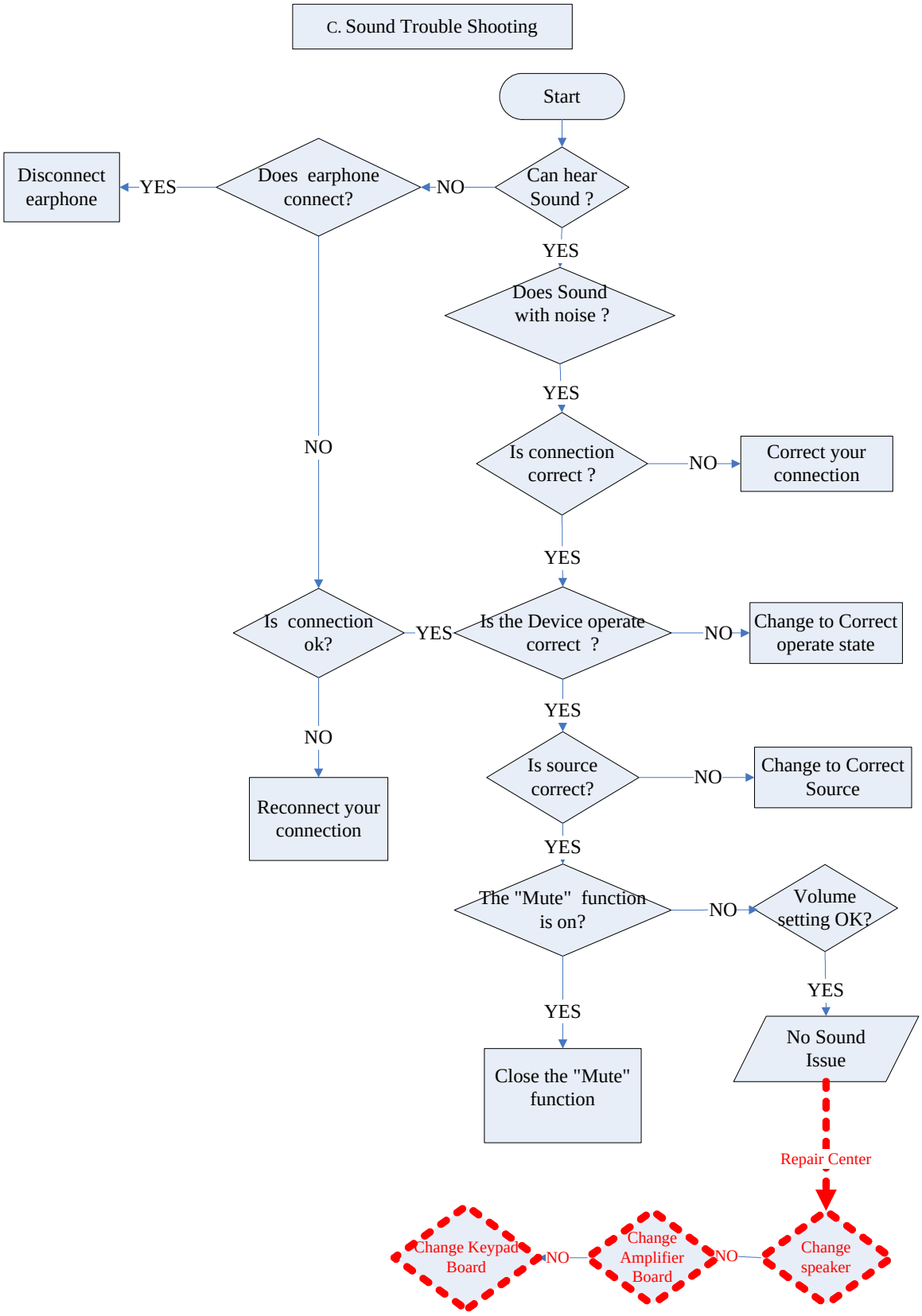



A. Power Troubleshooting-2
A
YES
Lamp LED solid RED ?
YES
Change Lamp
YES
Lamp Issue
Repair Center
Change Ballast Board
NO
Lamp LED RED twinkle ?
YES
B
Check environment temp. over 70 degree ?
YES
Move out the high temp. source
NO
YES
Temp LED solid RED ?
YES
Check the ventilation openings on TV block ?
NO
Temp Issue
Repair Center
YES
Move block out
Check System Fan spin ?
YES
NO
Temp LED RED twinkle
Temp Issue
Repair Center
Change System Fan
Check Engine Fan spin ?
YES
NO
NO
Check the ventilation openings on TV block ?
NO
Is system Fan spin ?
YES
Temp Issue
Change Engine Fan
NO
Repair Center
YES
Move block out
Check Engine Fan spin ?

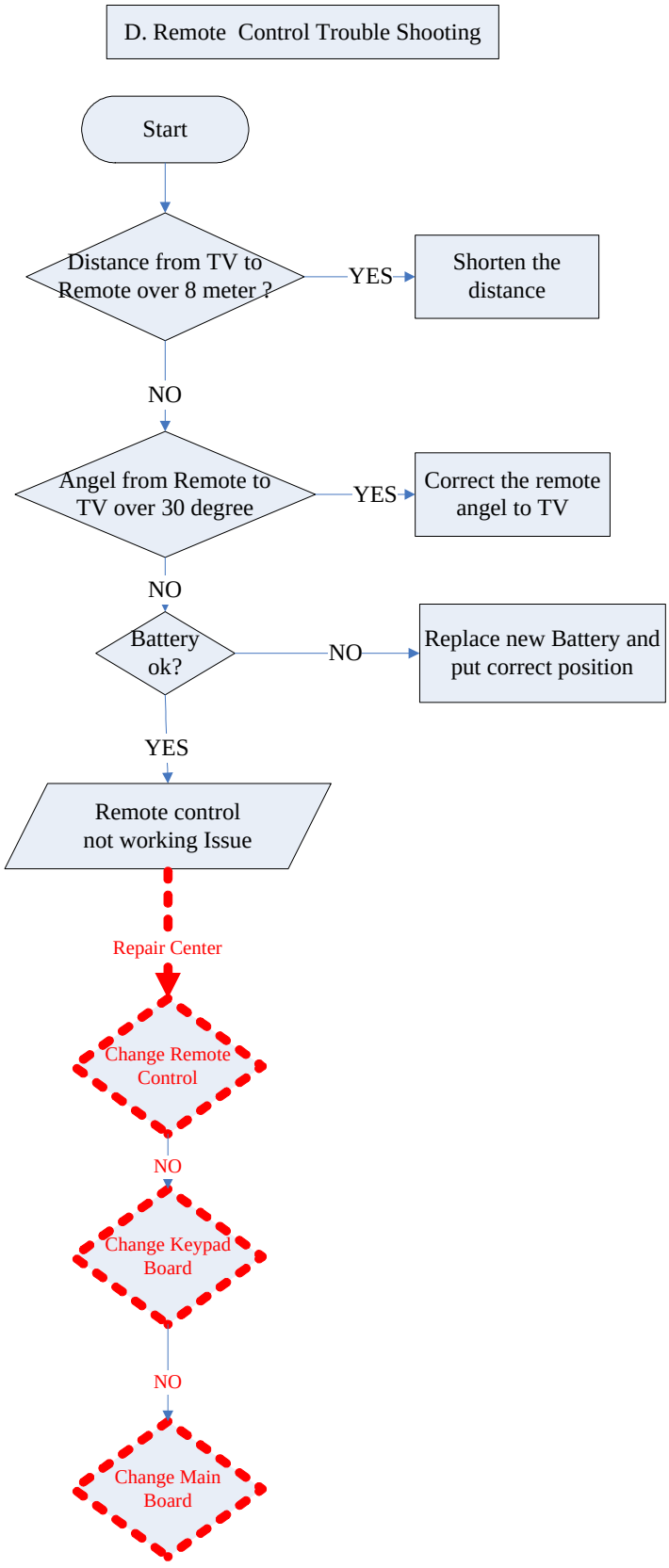
# 3-1.2 B. Image Performance Trouble Shooting



# 3-1.3 C. Sound Trouble Shooting



# 3-1.4 D. Remote Control Trouble Shooting



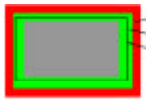
Chapter 4

# Alignment & Function Test Procedure

## 4-1 Optical Alignment

Test instrument facility
1. Archer remote controller *1
2. 7mm a ring spanner *1
3. 4mm inside six screw *1
4. screw glue

Environment setting
1. Power : AC 110 voltage
2. Operation environment brightness : 500 Lux up

| Test item | Working items | Check item/spec/figure |
|---|---|---|
| 1 | Plug the power cord into the socket behind the TV | Voltage 110V power cord should be connected firmly. |
| 2 | Switch on power and press Keypad power button to iginite Lamp. | Check if Lamp is on. |
| 3 | Press "Source" on the remote controller, press ↑↑↓↓←→←→ key and select overscan 2.6% to directly enter overscan 2.6 adjustment screen. | When overscan 2.6 screen appears,adjust the whole screen until the black line almost lies in the middle of the green area.  Outside green band reject area<br>Align consult line<br>Green Band Accept area |
| 4 | Please unscrew the screw in the red circle (Right picture) | (unlock screw) |
| 5 | (Ajust the hex screw clockwise) <br>(Ajust the hex screw counterclockwise) <br>Tool: inside 4mm six screw spanner | (image left and right ladder module adjust screw) |
| 6 | (Ajust the hex screw clockwise) <br>(Ajust the hex screw counterclockwise) <br>Tool: inside 4mm six screw spanner | (image left and right ladder module adjust screw) |
| 7 | Tune the adjuster clockwise in the red circle and the screen moves right<br>Tune the adjuster counterclockwise in the red circle and the screen moves left | (image left and right) |

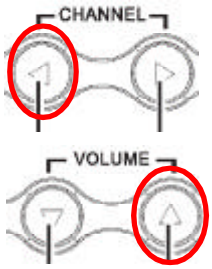
| | | |
|---|---|---|
| 10 | After adjustment, please check if overscan pattern lives up to the spec.<br> <br> | Flow up procedure 4 |
| 11 | Screw the screw in the top left<br>(Tool: 7mm a ring spanner) | <br>(screw lock procedure 1) |
| 12 | Screw the screw in the lower left screw<br>(Tool: 7mm a ring spanner) | <br>(screw lock procedure 2) |
| 13 | Screw top right screw<br>(Tool 7mm a ring spanner) | <br>(screw lock procedure 3) |
| 14 | Screw lower right bottom fixed screw<br>Tool: 7mm a ring spanner) | <br>(screw lock procedure 4) |
| 15 | Adjust the hex screw against the small mirror<br>(Tool: 7mm a ring spanner) | <br>(screw lock procedure 5) |
| 16 | Glue the screws firm (include 5 screws in the procedure 11-15) | Gluing area : 1/3 circle of the screws |

*Note: Item 5,6,7 and 8 are recommendatory ones, if you can't achieve the item 3 standard after implementing item 9, 10,11 and 12.

# 4-2 Function Test

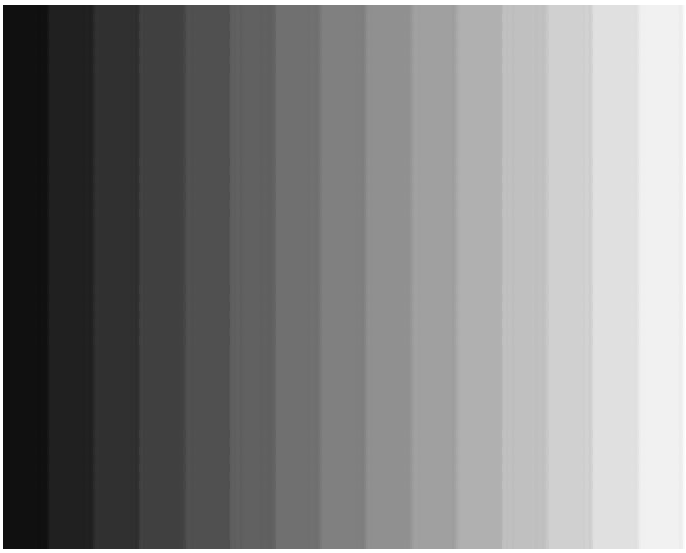
## A. Video / Audio

Test Instrument Facility:
1. Remote controller *1
2. DVD player *1 (must have the HDMI port )
3. Cables *1 (component , composite , s-video , HDMI , DVI to HDMI , SPDIF )
4. Earphone *1
5. VGA cables *1 (D-sub 15 pin , audio )
6. Pattern generator *1( It can generate the 16 gray scale picture )

| Test item | Working items | Picture | Check item/spec/figure |
|---|---|---|---|
| Original customer's source test | Press SOURCE button on the remote controller and choose the customer's original settings. | | Test the defect of customers complaint and confirm that the main defect has been solved. |
| AV-7 test | (1)Press SOURCE button on the remote controller and choose source to AV-7. Figure.1<br>(2)Connect DVD video signal to AV-7. Check display quality and sound of AV-7 | Figure.1 | Check any abnormal color, line distortion or any noise in the screen. And check the Sound from speaker |
| Keypad test | (1)Press SOURCE button on the remote controller and choose source to AV-3. Figure.1<br>(2)Connect DVD video signal to AV-3<br>(3)Press Channel and Volume buttom as the right picture shows. |   | Check if the keypad function work well. |
| Remote Controller test | (1)Press SOURCE button on the remote controller and choose source to AV-3. Figure.1<br>(2)Connect DVD video signal to AV-3<br>(3)Press five right-marked buttons on the remote controller and choose source to AV3. Figure.1 | | Check if the keypad function work well. |
| TV test | Press "ATV" button on the remote controller and select "Channel Setup" and then "Channel Search | | After auto-scanning, press "ch+" "ch-" buttons to test channels. Check if lines, abnormal color and zigzag on image. |
| Reset | (1)Press Channel ◀ and Volumne ▲ on the front bazel at the same time and then press power button to power on<br>(2)Press Power button to turn off TV | | Power indicator will be off. |

## B. ADC calibration

1. Input 16 gray scale picture from generator to TV
2. TV set to Factory Menu
3. Execute the ADC calibration



Chapter 5

# Firmware & EDID Upgrade Procedure

## 5-1 Pixelworks Upgrade Procedure

### 1. Tool Needed:

**Hardware :**

- IBM compatible PC that minimum CPU requirement is Pentium III 800
- RS232 Cable ( pin to pin ,female in both side) , like this:

**Software :**

- OS need Microsoft Windows 98/NT/2000/XP
- upgrade software : ( Please put these files into the same folder)

  Appcode.hex

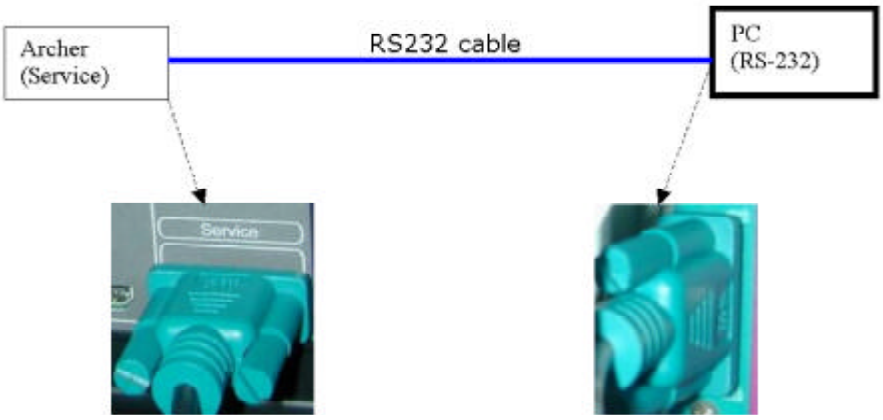
  Appcode.inf

  Flasher.hex

  Flashupgrader.exe

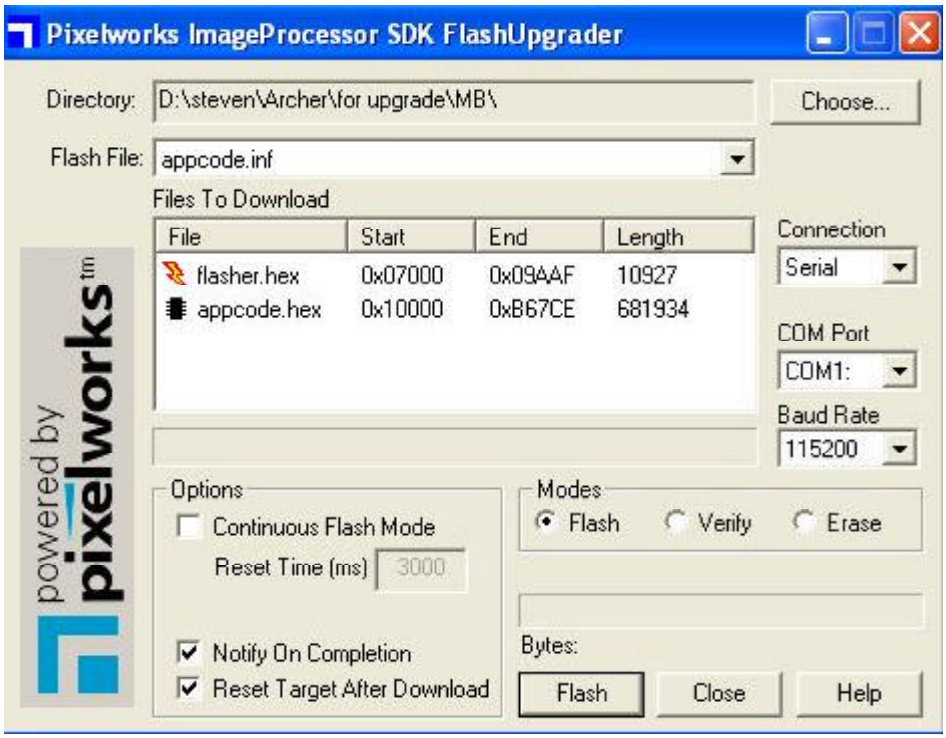
### 2. Upgrade Procedure:

(we use WINXP SP1 OS do example ) Here is the cable linkage method:



2-1. To open the folder there are upgrade software. (example folder is: d:\steven\Archer\for upgrade\MB )

2-2. Execute FlashUpgrader.exe program , then you will get below image:

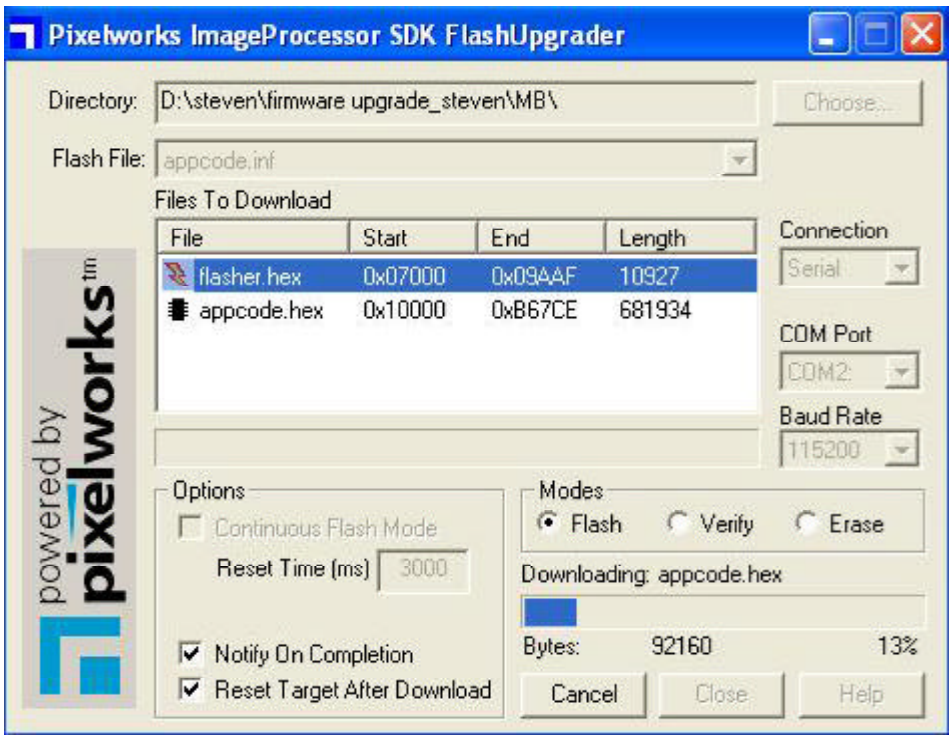


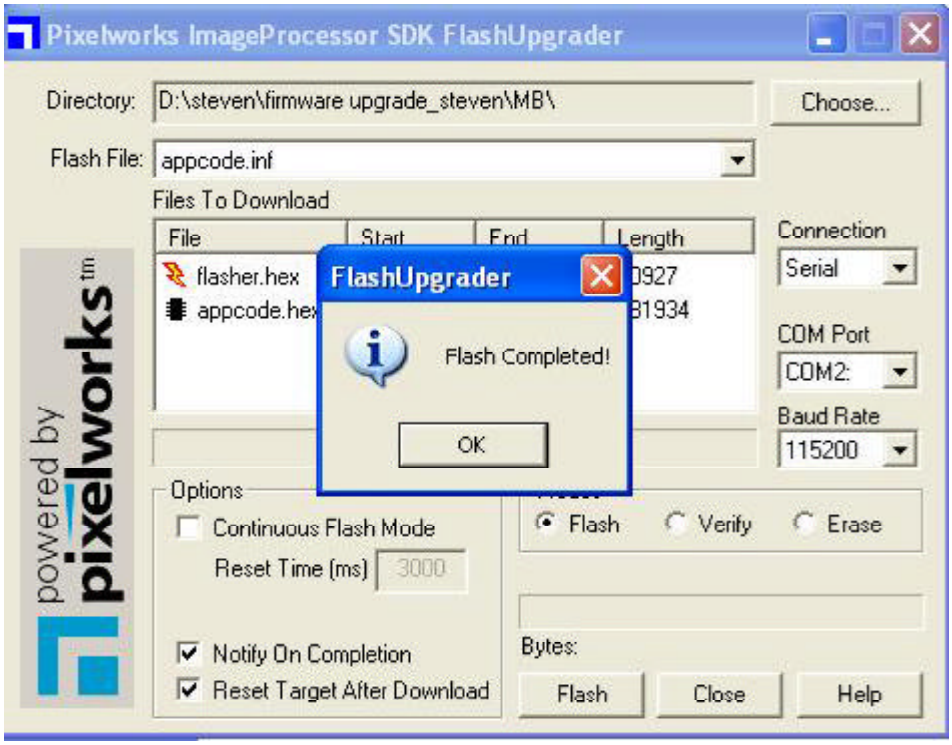

2-3. Select Connection to “Serial” , COM Port to COM1 ( depend on your actual connecting port ) , Baud Rate to 115200.

2-4. Press Flash button .

2-5. Turn Power switch on and press POWER key in the front panel, TV will auto run the upgrade process.

2-5. Proceed like below



# 5-2 MTV512 Upgrade Procedure

## 1. Tool Needed:

**Hardware :**

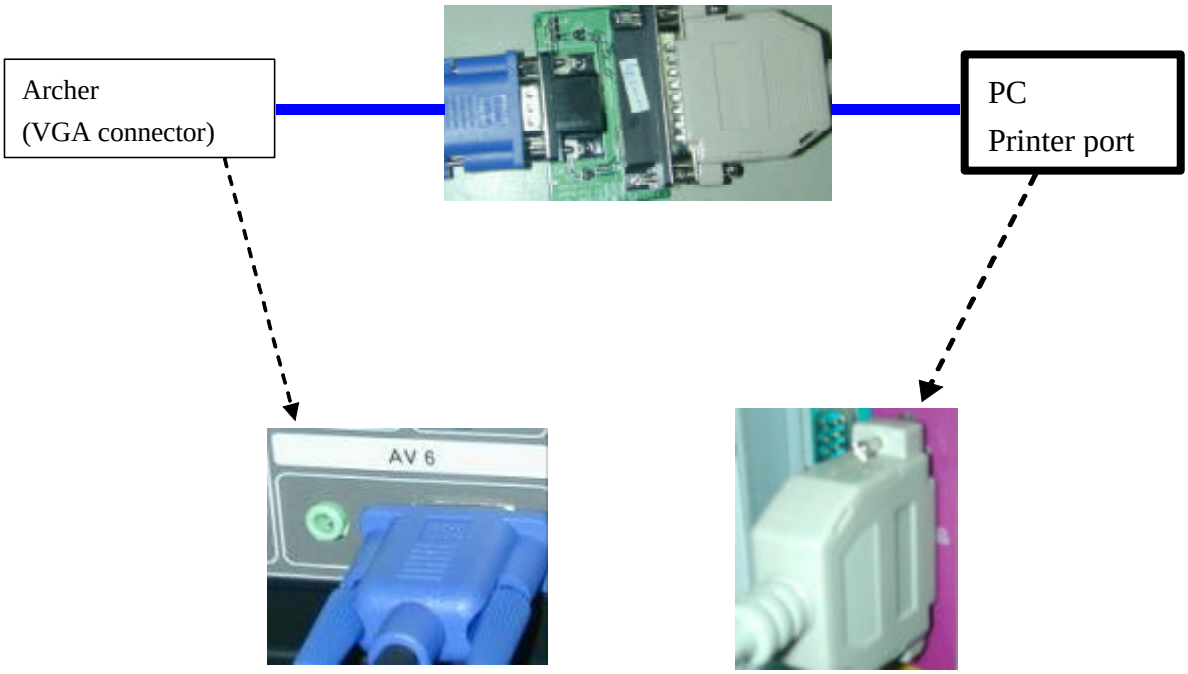
- IBM compatible PC that minimum CPU requirement is Pentium III 800
- VGA Cable ( male in both side)
- Printer Cable ( one is female , the other is male ) like these:

**Software :**

- OS need Microsoft Windows 98/NT/2000/XP
- ISP ( In System Program ) driver ( See Notice 3-1 )

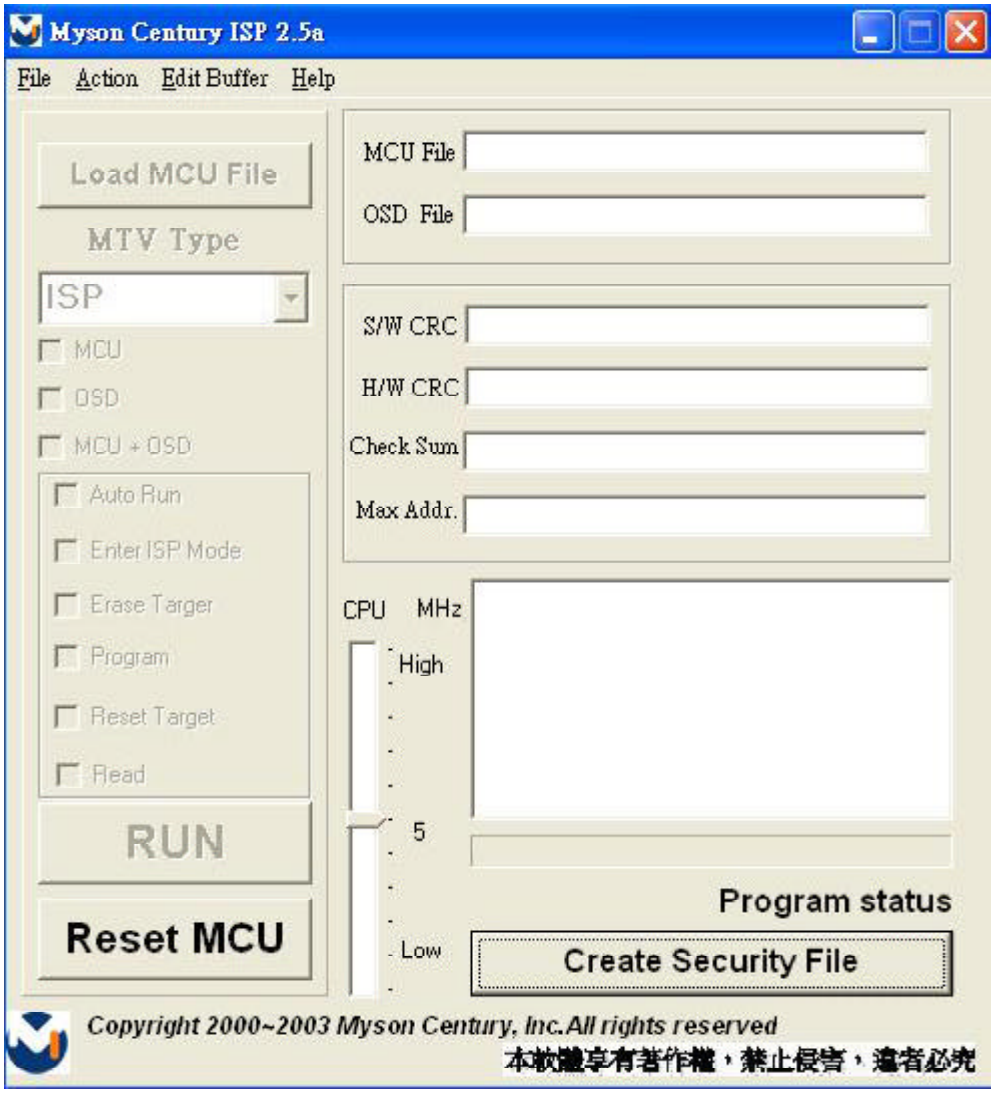
## 2. Upgrade Procedure:

(we use WINXP SP1 OS do example ) Here is the cable linkage method:

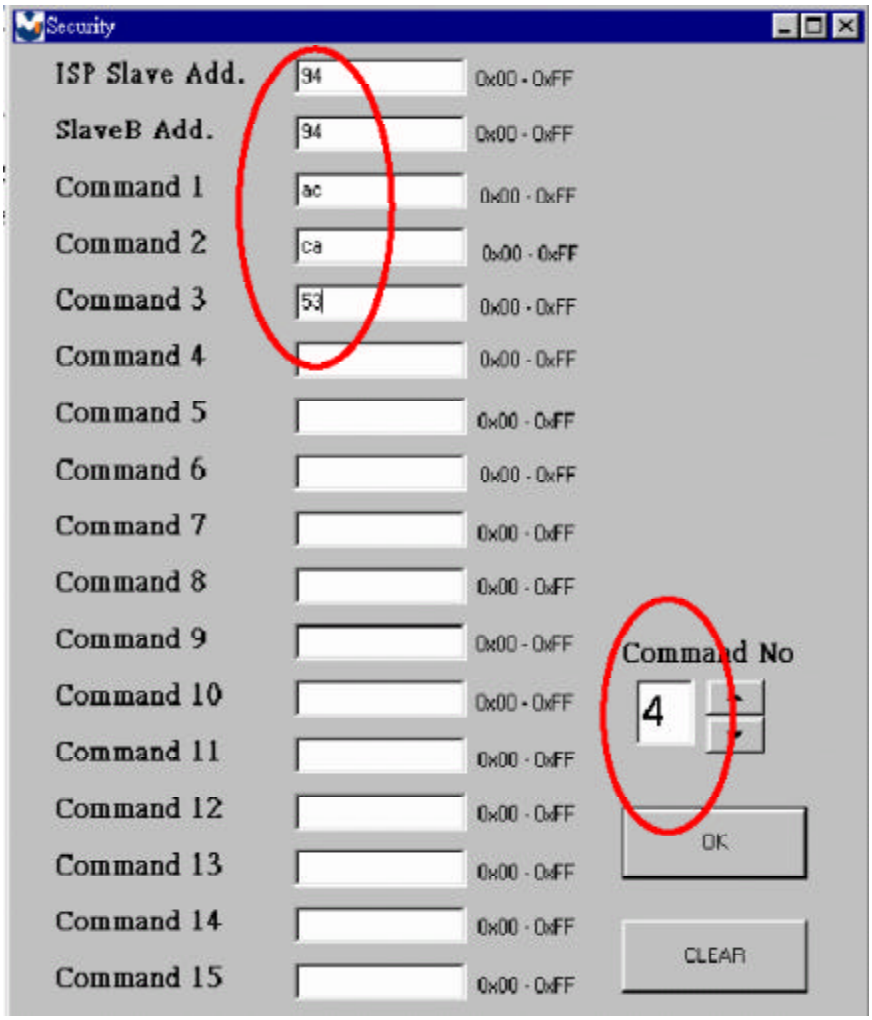


2-1. Turn Power switch on

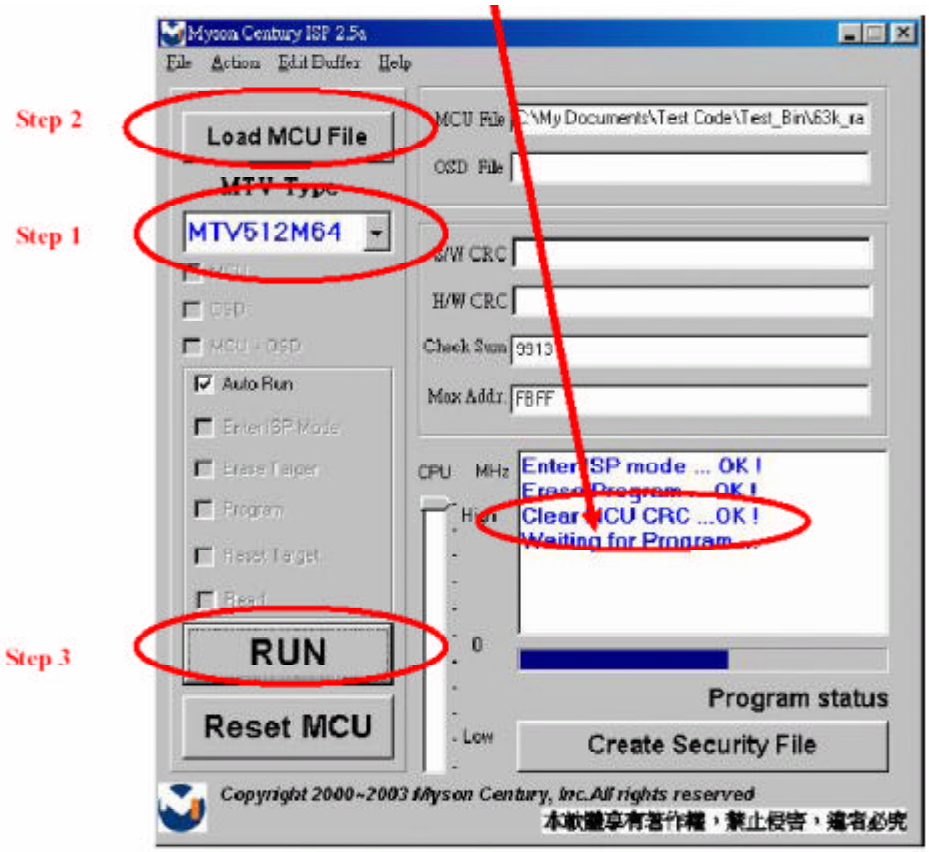
2-2. Execute ISP Program



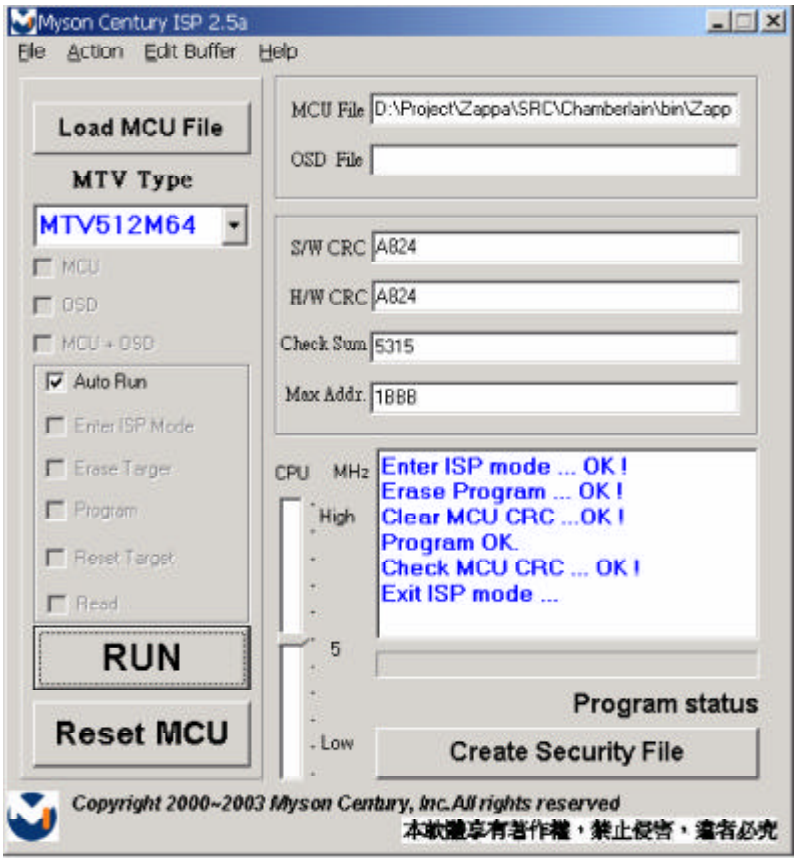
2-3 Press “Create Security File” button to key in security code. It will shows the setting for security code of hardware ISP, it needs **4** Command No, and key in command sequentially for **94, 94, AC, CA, 53**




2-4 Select MTV type to MTV512M64 ,
Load MCU file from MT512. hex route
press “RUN” button, see below picture




2-6 If program progress finish, and all message are OK, then means MTV512 program success, turn AC power off then on.



## 3. Notice:

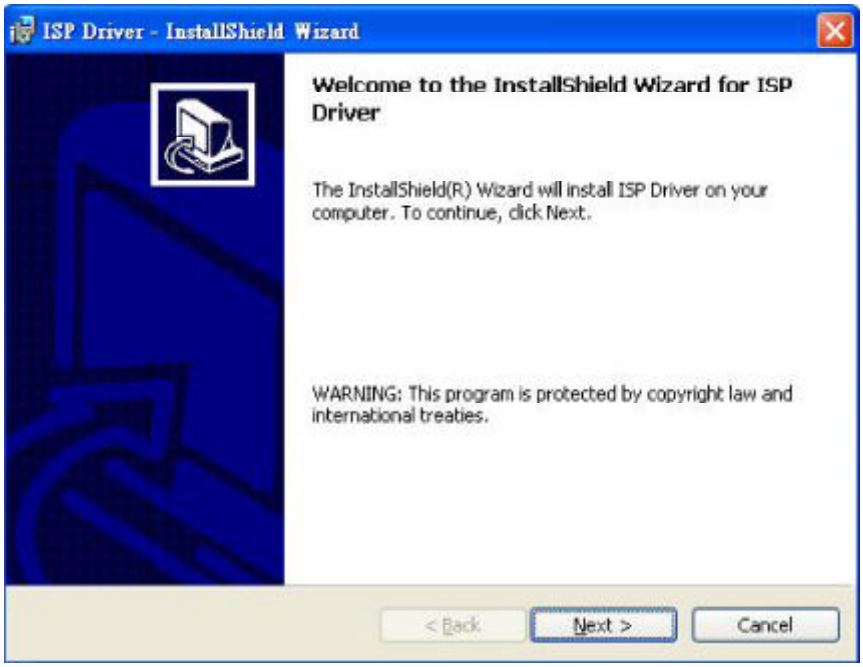
3-1. Install ISP

A. If your PC OS is 98/ NT/2000/XP , please install port95nt.exe first.
the port95nt.exe can download from Myson Century website. (www.myson.com.tw)
Execute port95nt.exe , follow default install setting is ok.
Then Power on reset your PC to let the port95nt program work.

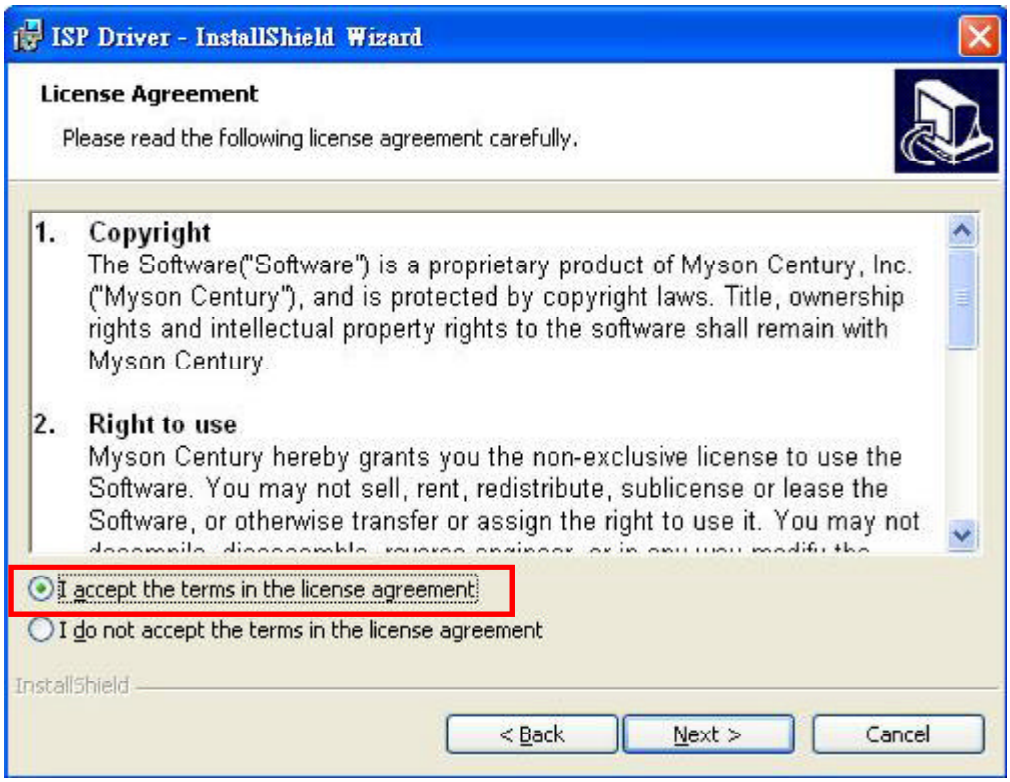
B. User could download ISP driver install file from Myson Century website. (www.myson.com.tw).
The ISP_driver_2.5a.zip is example

C. After extracting the zip file, the total files list as below figure, and double click the file of setup.exe to install.

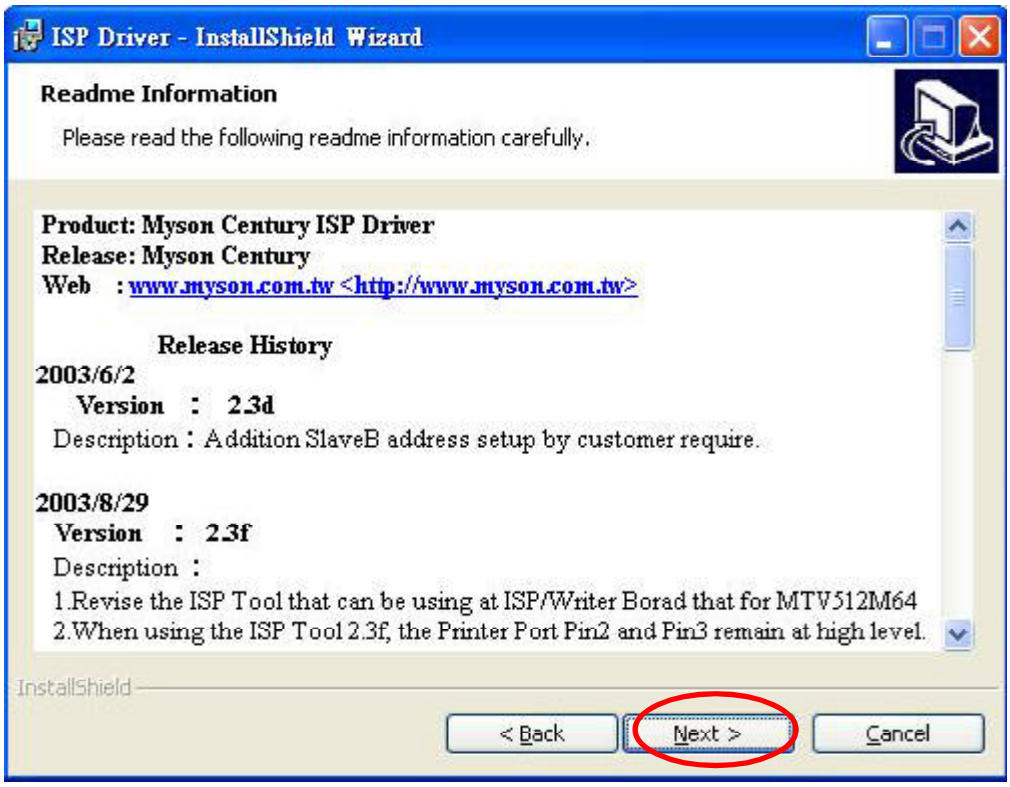
D. Press "Next" button to continue.


ISP Driver - InstallShield Wizard
Welcome to the InstallShield Wizard for ISP Driver
The InstallShield(R) Wizard will install ISP Driver on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

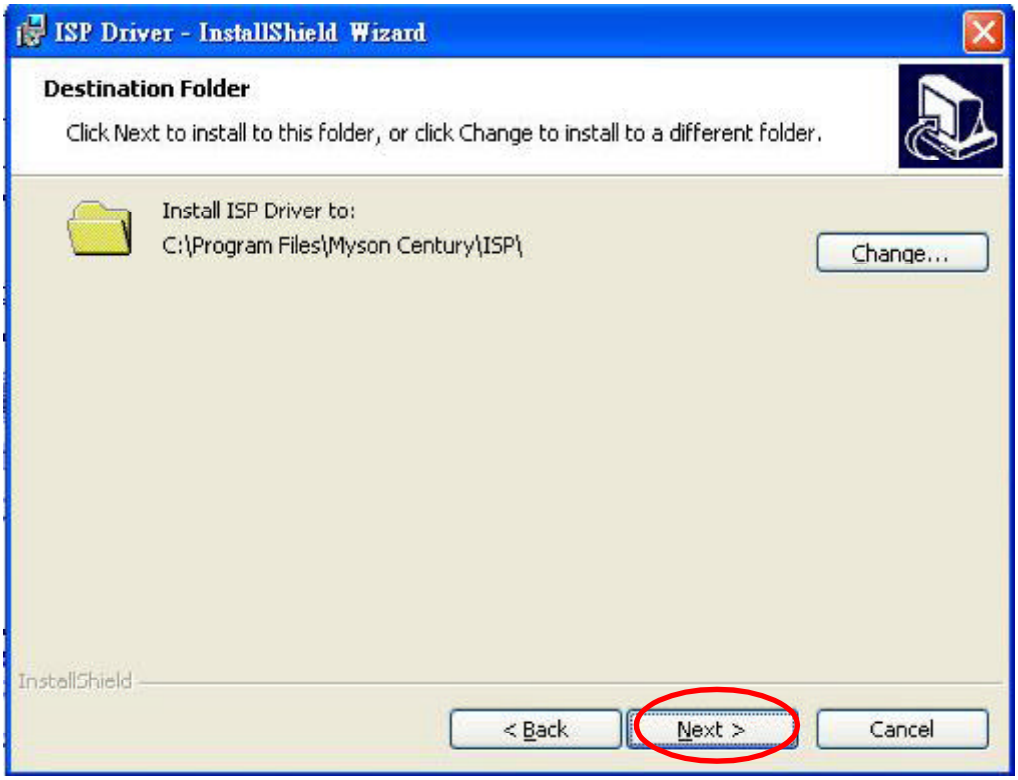
E. Select “I accept the terms in the license agreement” and press “Next” button.


ISP Driver - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
1. Copyright
The Software("Software") is a proprietary product of Myson Century, Inc. ("Myson Century"), and is protected by copyright laws. Title, ownership rights and intellectual property rights to the software shall remain with Myson Century.
2. Right to use
Myson Century hereby grants you the non-exclusive license to use the Software. You may not sell, rent, redistribute, sublicense or lease the Software, or otherwise transfer or assign the right to use it. You may not
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

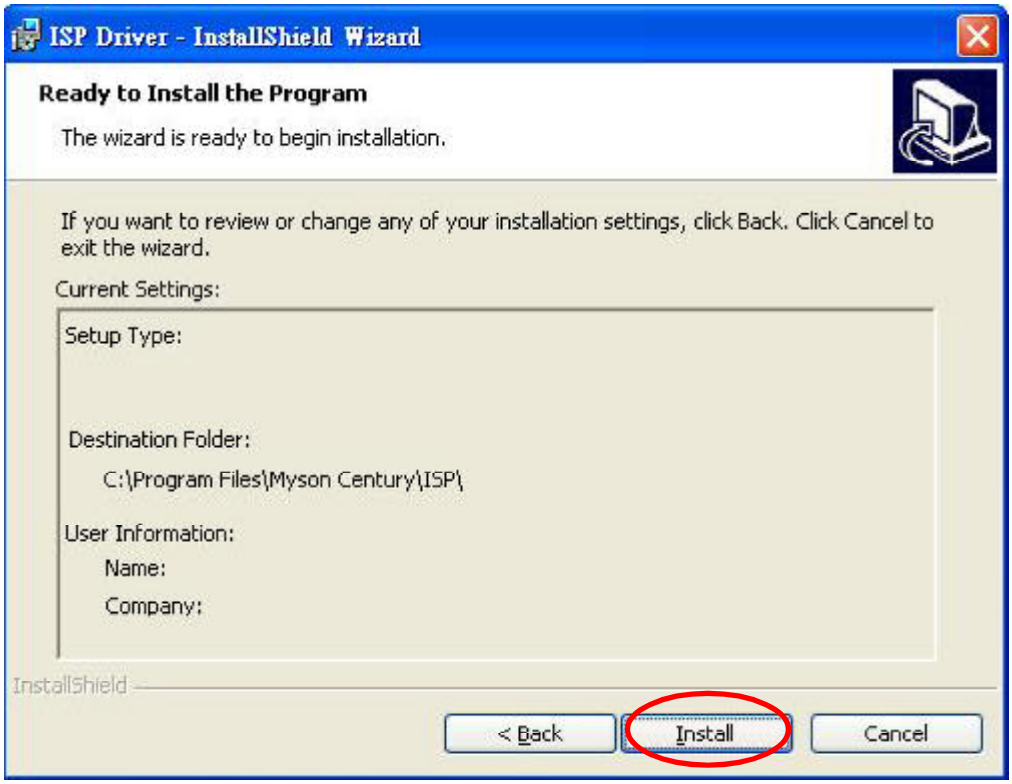
F. Press “Next” button to continue.


ISP Driver - InstallShield Wizard
Readme Information
Please read the following readme information carefully.
Product: Myson Century ISP Driver
Release: Myson Century
Web : www.myson.com.tw <http://www.myson.com.tw>
Release History
2003/6/2
Version : 2.3d
Description : Addition SlaveB address setup by customer require.
2003/8/29
Version : 2.3f
Description :
1.Revise the ISP Tool that can be using at ISP/Writer Borad that for MTV512M64
2.When using the ISP Tool 2.3f, the Printer Port Pin2 and Pin3 remain at high level.
InstallShield
< Back
Next >
Cancel

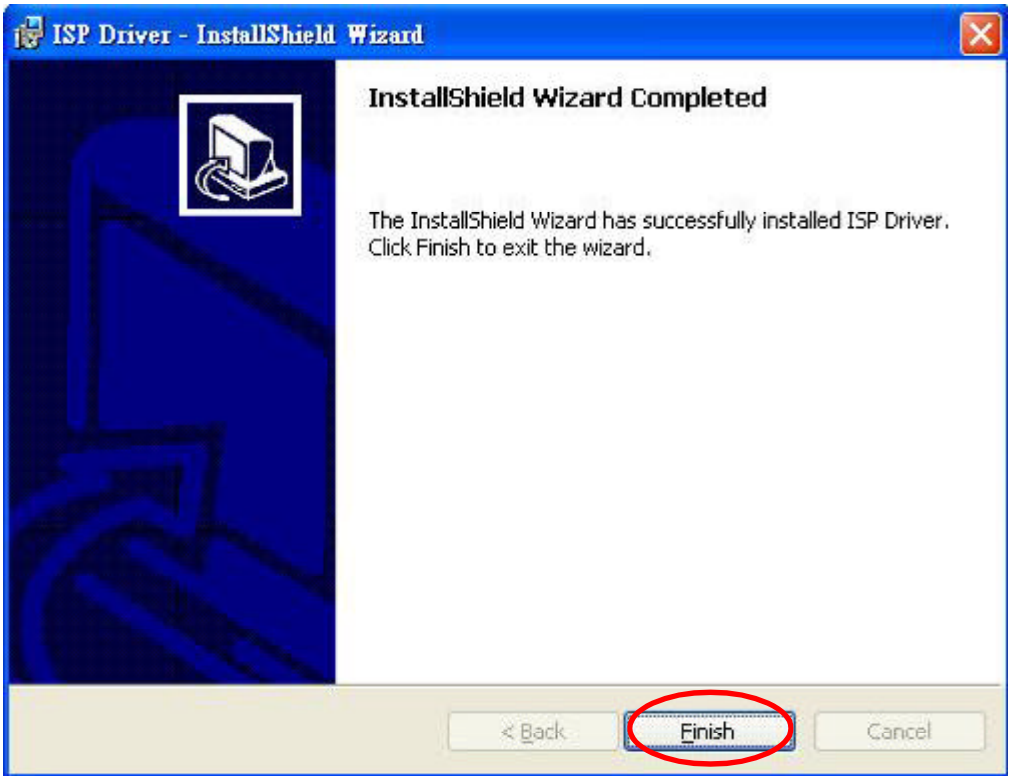
G. Press “Next” to continue.


ISP Driver - InstallShield Wizard
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install ISP Driver to:
C:\Program Files\Myson Century\ISP\
Change...
InstallShield
< Back
Next >
Cancel

H. Press “Install” to continue.



l. Press “Finish” to end the installation.


ISP Driver - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed ISP Driver. Click Finish to exit the wizard.
< Back
Finish
Cancel

# 5-3 Tuner Board Upgrade Procedure

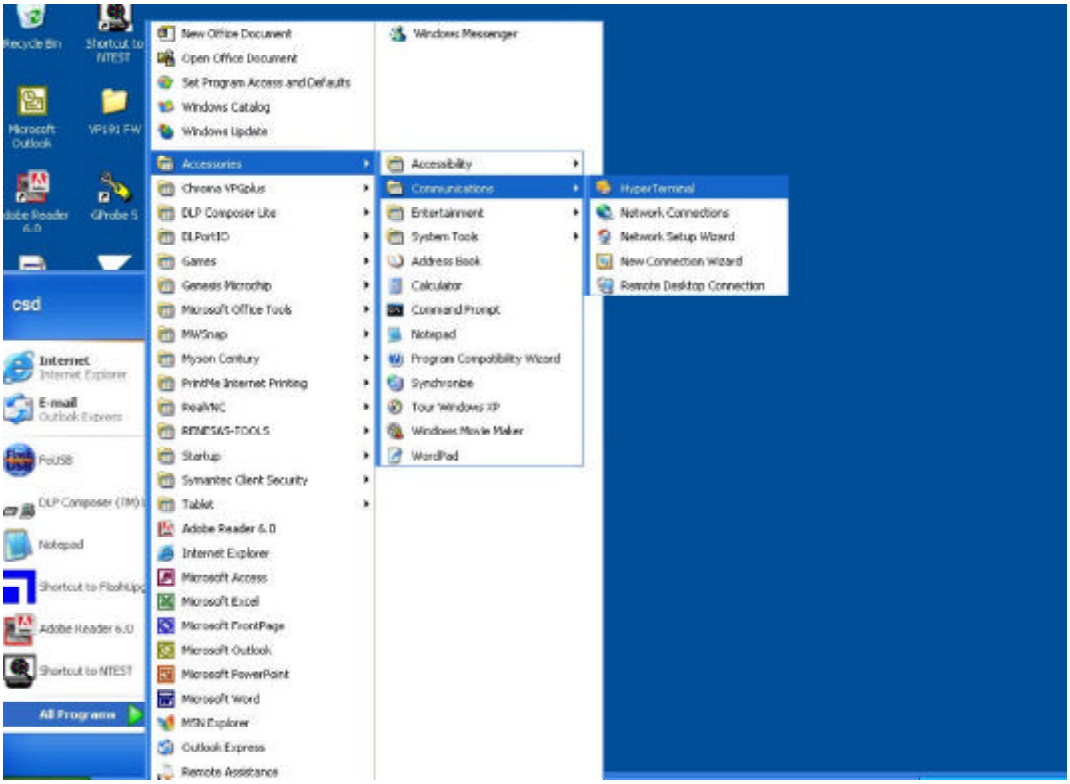
## 1. Tool Needed:

**Hardware :**

- IBM compatible PC that minimum CPU requirement is Pentium III 800
- RS232 Cable ( female in both side) , like this:

**Software :**

- OS need Microsoft Windows 98/NT/2000/XP
- Hyperterminal




- upgrade software : (put these files into the same folder)

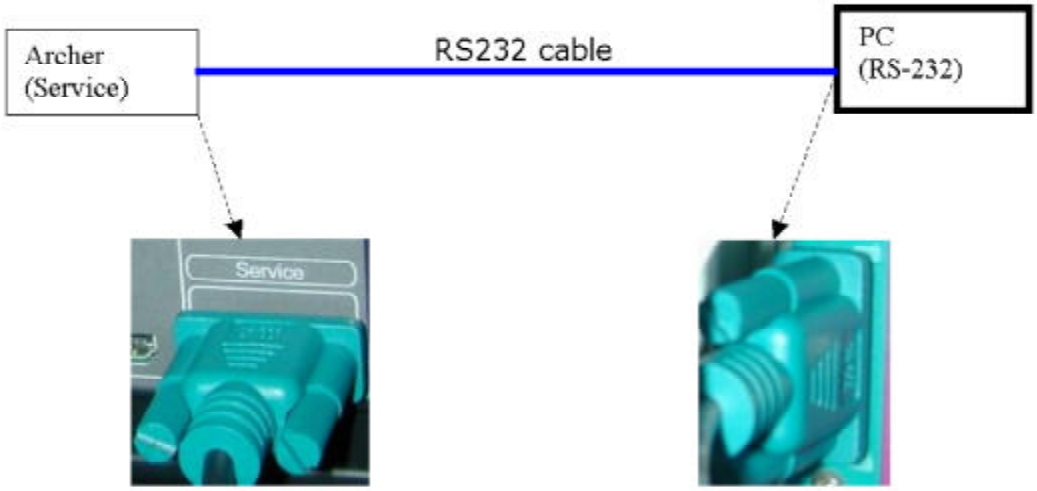
  TL9_update_flash(ver2_7).exe

  vxWorks_user.bin

## 2. Upgrade Procedure:

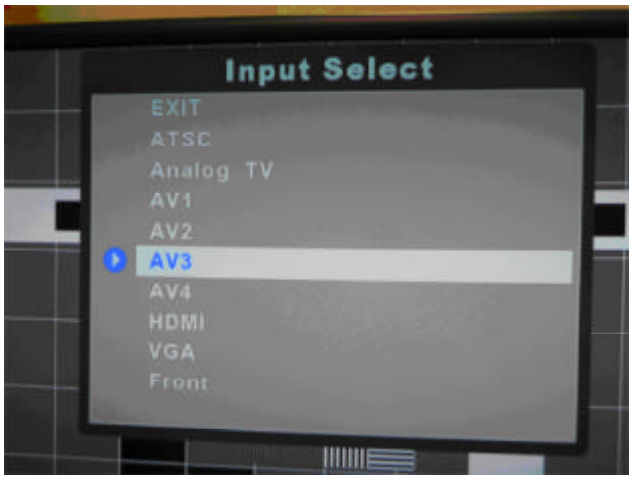
It will take about ten minutes .

(we use WINXP SP1 OS do example ) Here is the cable linkage method:



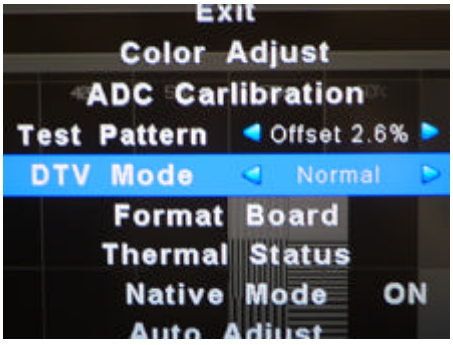

2-1. Turn Power switch on, then press power key on the front Keypad to turn on the TV.

2-2. Press “source”



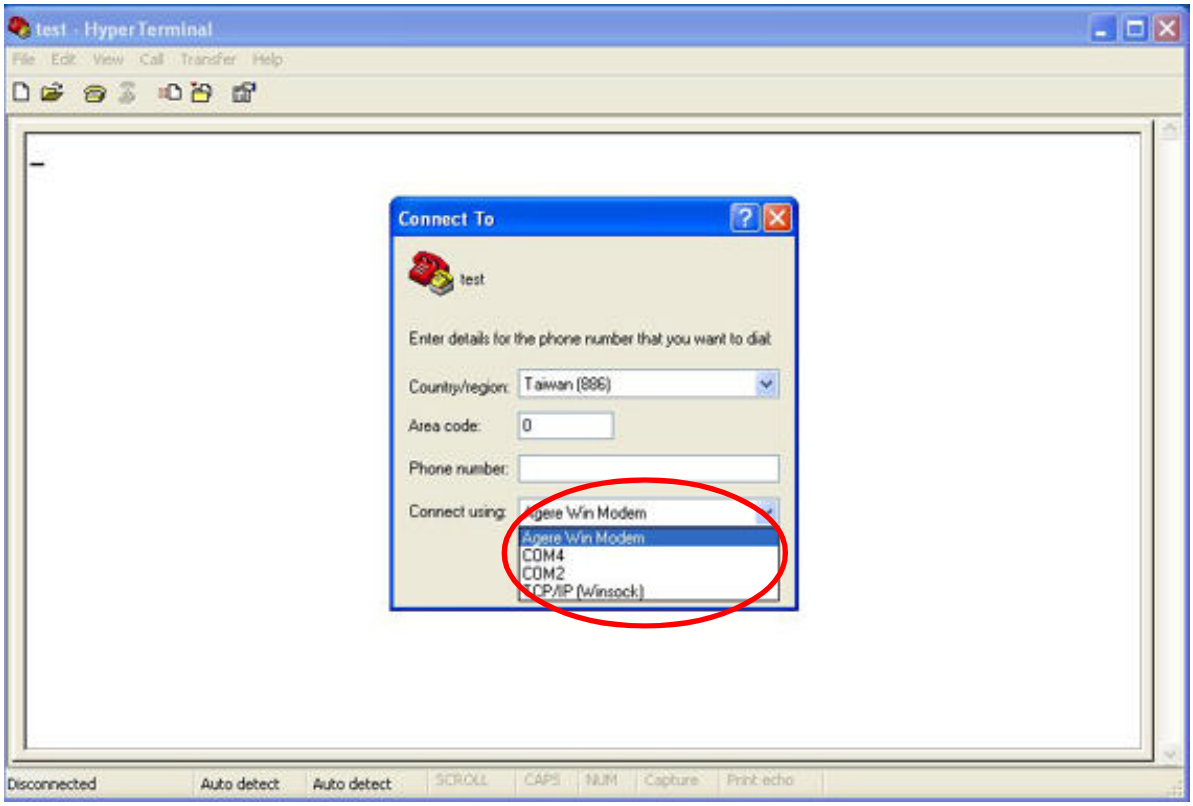

Press, “up”, ”up”, ”down”, “down”, ”left”, “right”, ”left”, “right” to enter factory menu.

DTV mode should be “Normal”¨, press “right” change to “Upgrade” mode

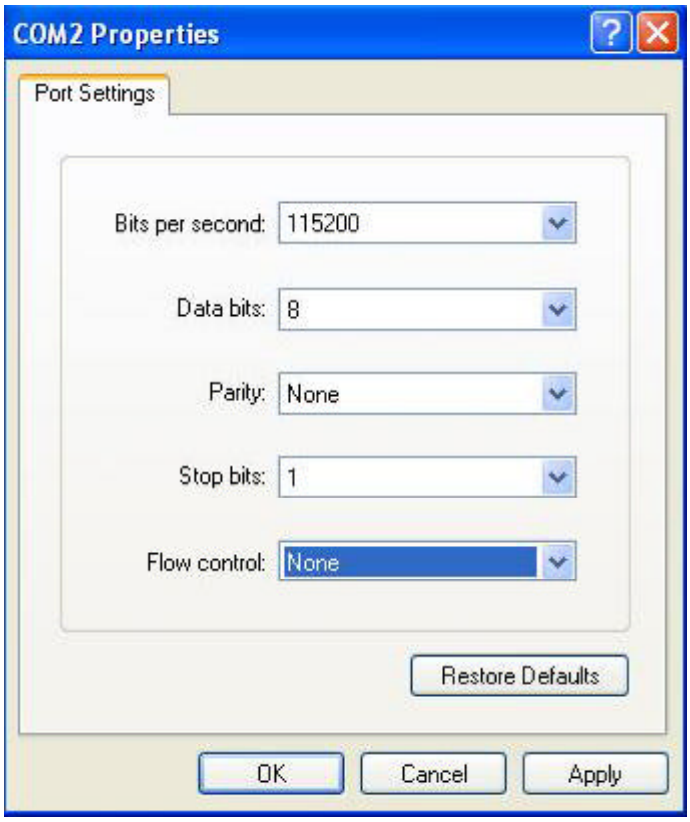


DTV mode should be “Normal”, press “right” change to “Upgrade” mode.

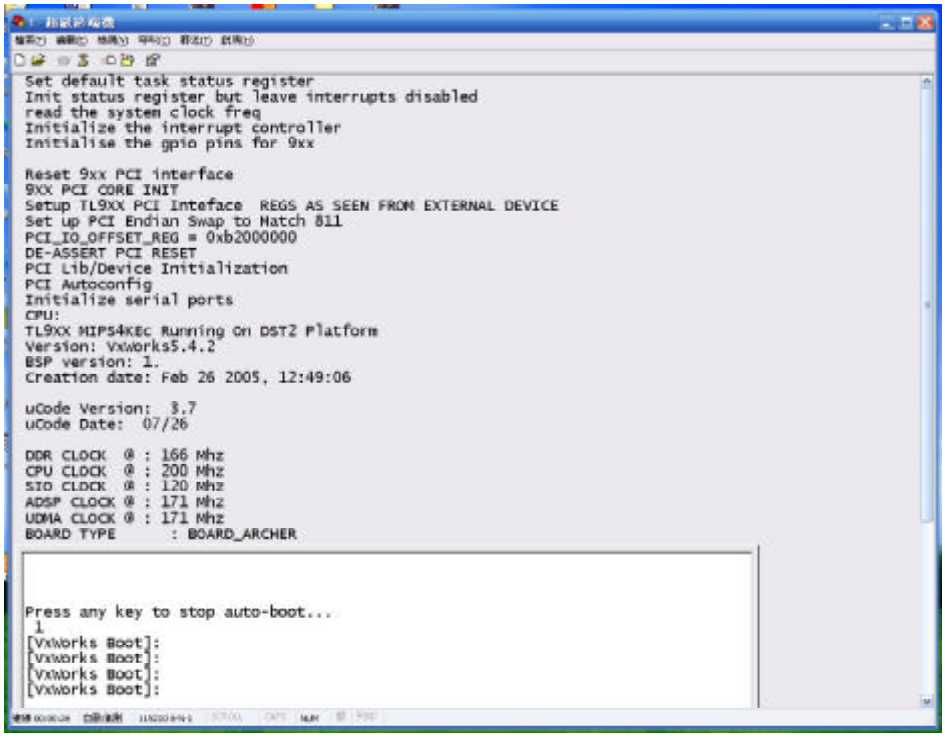
2-3. Open Hyperterminal and select your COM port.



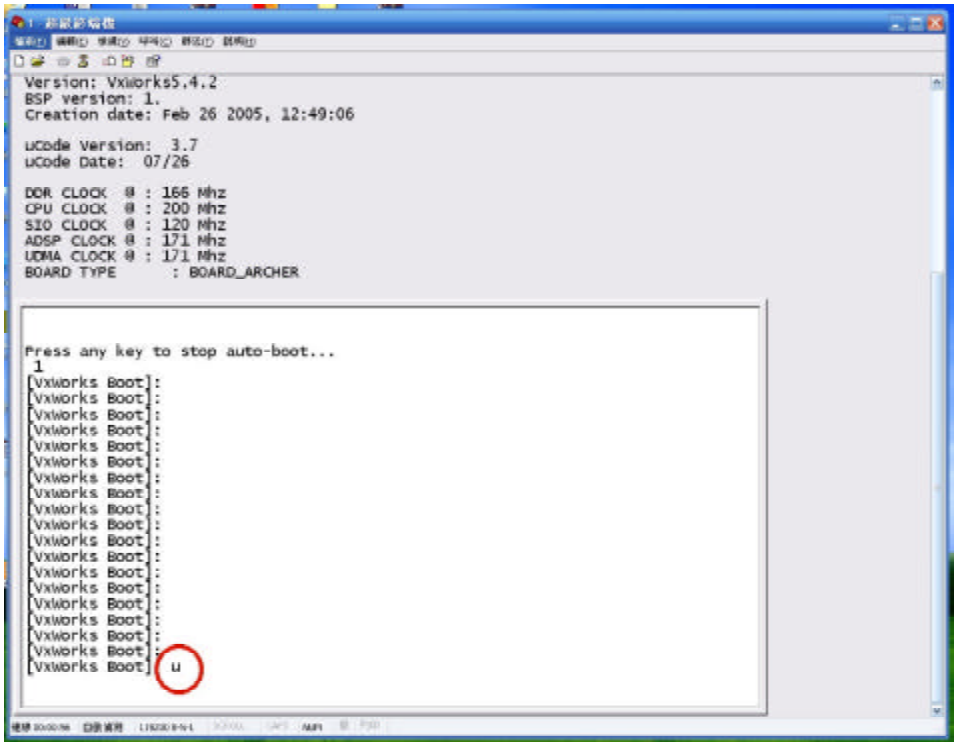
Baud rate: 115200, data bit: 8, parity check: no, stop bit: 1, flow control: none




In Hyperterminal, keep press enter on keyboard, then press “OK” on remote control.

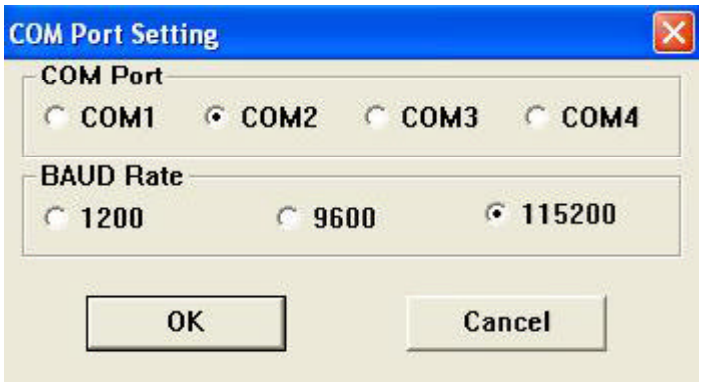

Set default task status register
Init status register but leave interrupts disabled
read the system clock freq
Initialize the interrupt controller
Initialise the gpio pins for 9xx
Reset 9xx PCI interface
9XX PCI CORE INIT
Setup TL9XX PCI Inteface REGS AS SEEN FROM EXTERNAL DEVICE
Set up PCI Endian Swap to Match 811
PCI_IO_OFFSET_REG = 0xb2000000
DE-ASSERT PCI RESET
PCI Lib/Device Initialization
PCI Autoconfig
Initialize serial ports
CPU:
TL9XX MIPS4KEc Running On DST2 Platform
Version: VxWorks5.4.2
BSP version: 1.
Creation date: Feb 26 2005, 12:49:06
uCode Version: 3.7
uCode Date: 07/26
DDR CLOCK @ : 166 Mhz
CPU CLOCK @ : 200 Mhz
SIO CLOCK @ : 120 Mhz
ADSP CLOCK @ : 171 Mhz
UDMA CLOCK @ : 171 Mhz
BOARD TYPE : BOARD_ARCHER
Press any key to stop auto-boot...
1
[VxWorks Boot]:
[VxWorks Boot]:
[VxWorks Boot]:
[VxWorks Boot]:

If Hyperterminal doesn't show the above message, keep press enter on keyboard, then press "OK" on remote control again.
Until "[VxWorks Boot]", press "u" and enter

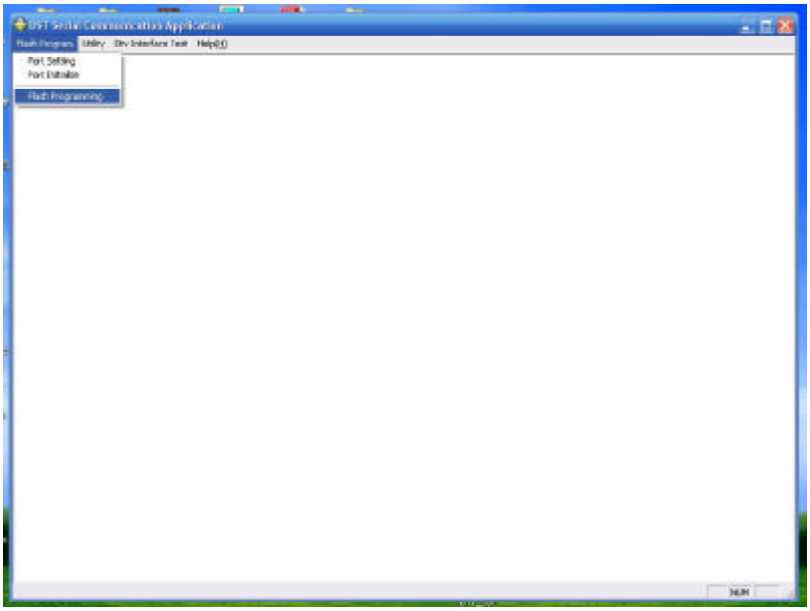

Version: VxWorks5.4.2
BSP version: 1.
Creation date: Feb 26 2005, 12:49:06
uCode Version: 3.7
uCode Date: 07/26
DDR CLOCK @ : 166 Mhz
CPU CLOCK @ : 200 Mhz
SIO CLOCK @ : 120 Mhz
ADSP CLOCK @ : 171 Mhz
UDMA CLOCK @ : 171 Mhz
BOARD TYPE : BOARD_ARCHER
Press any key to stop auto-boot...
1
[VxWorks Boot]:
u

Then close the Hyperterminal (important!)

2-4. Execute TL9_update_flash(ver2_7).exe

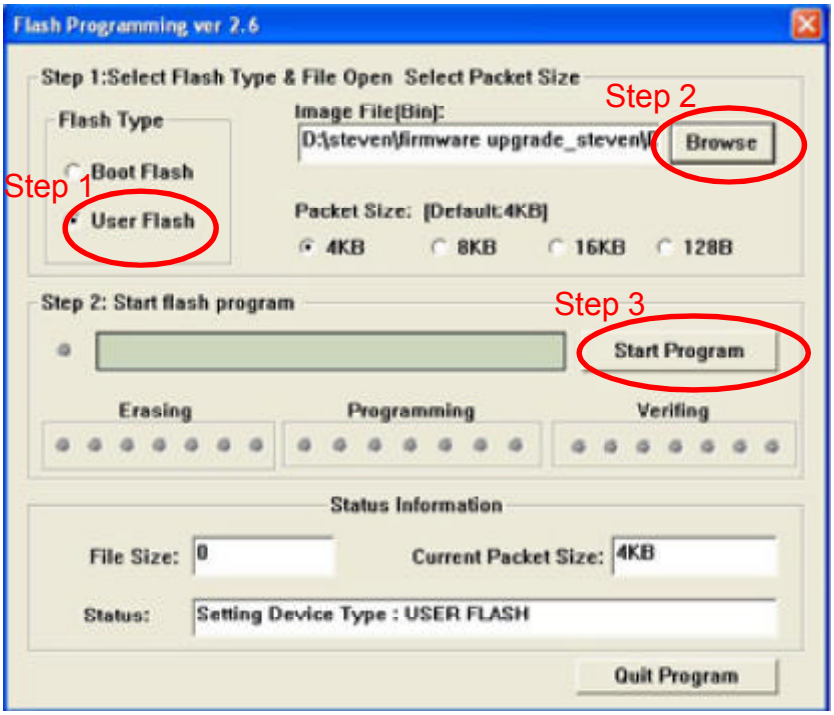


Select your COM port, and set BAUD rate to 115200, press OK.

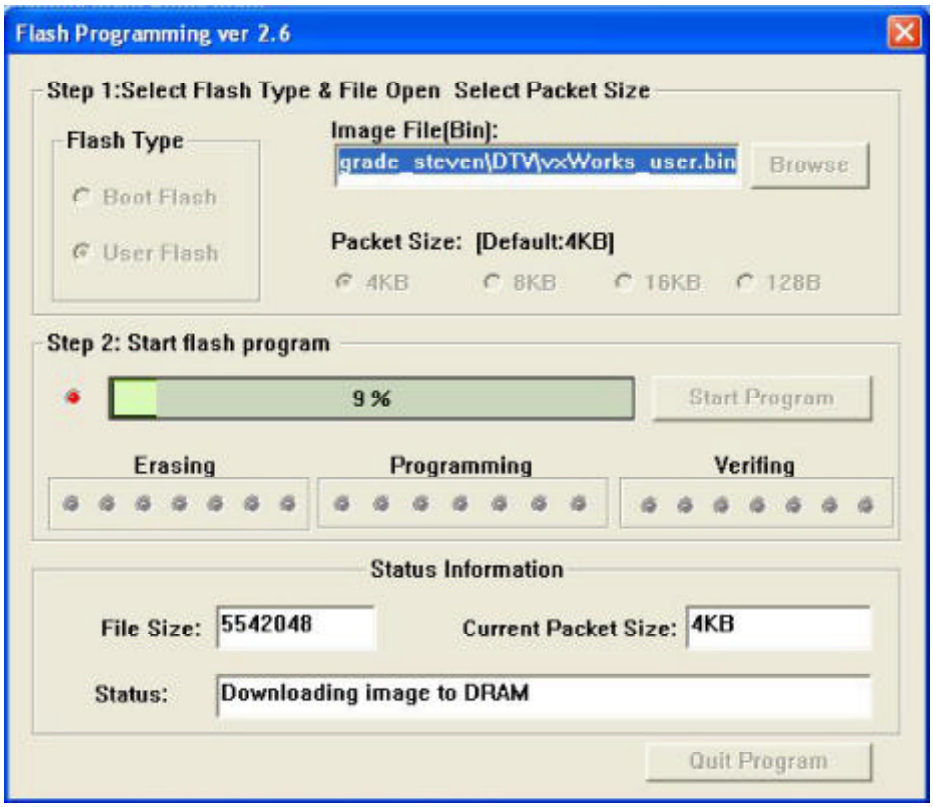


Select Flash Program->Flash Programming.

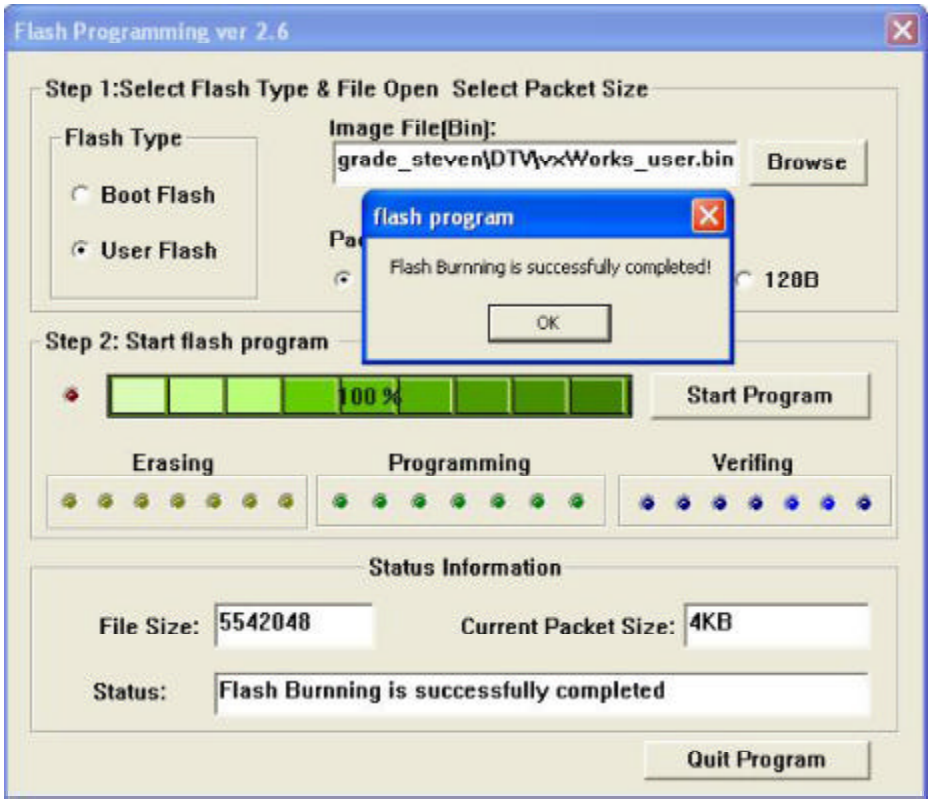
2-5. Step1: Select User Flash
Step2: Browse the vxWorks_user.bin
Step3: Start program



2-6 It will proceed like the picture below




2-7 When “complete” message appear, it mean upgrade complete.



2-8 Switch Power off , then switch power on

Press “ ◯ “ at the same time, and then press “ □ “

When “Composite 4” disappear on the TV . It mean the new firmware is OK on this TV

# 5-4 EDID Upgrade Procedure (not supported)

## 1. Tool Needed:

**Hardware :**

- IBM compatible PC that minimum CPU requirement is Pentium III 800
- D8330 Card ( PCI Interface , See Notice 3-1)
- D8330 Interface Cable (See Notice 3-1)
- DVI to HDMI cabl ,like this :

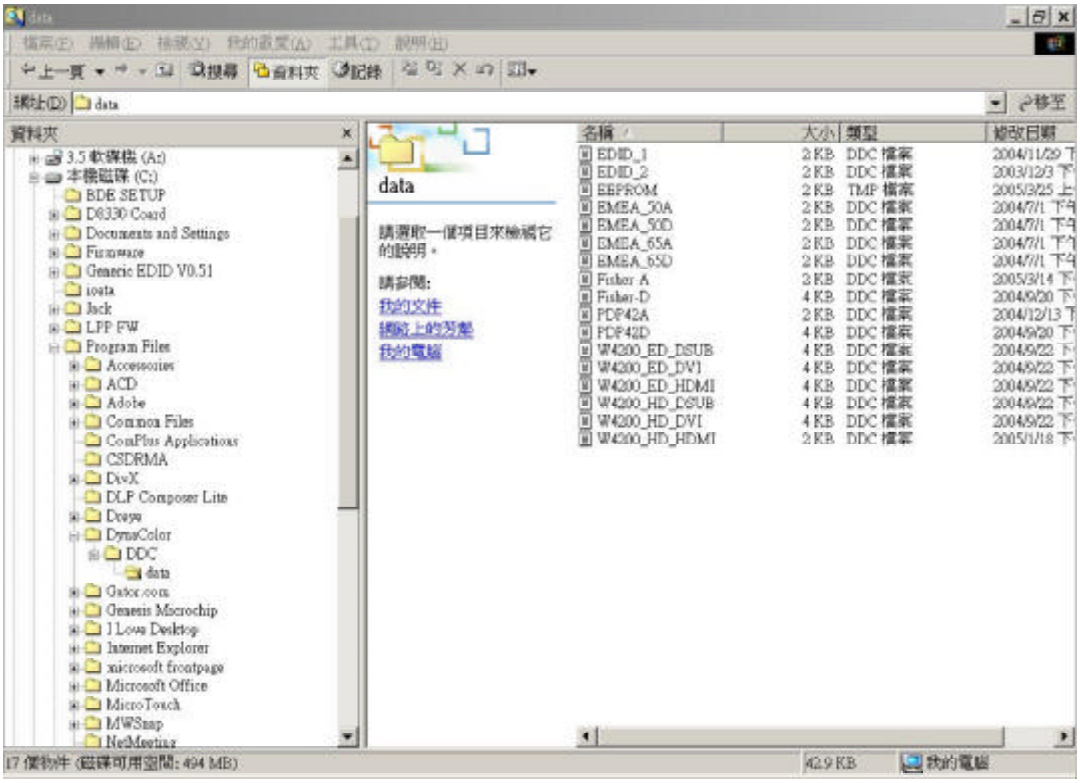
**Software :**

- OS need Microsoft Windows 98/NT/2000/XP
- D8330 Display Data Channel Testing System (See Notice 3-1)

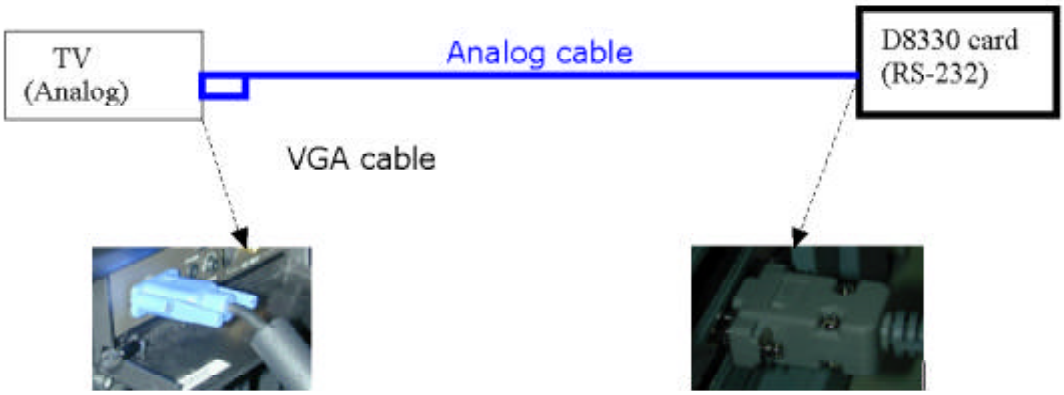
## 2. Upgrade Procedure:

2-1. You should install the D8330 Display Data Channel Testing System first . (about install “DDC” software Please reference D8330 Display Data Channel Testing System user's manual )

2-2. Add EDID data in your PC. EDID data for update purpose.
VGA.BIN for EDID-analog
HDMI.BIN for EDID-digital
Two files. These files you should put them in C:\Program Files\DynaColor\DDC\ data directory.

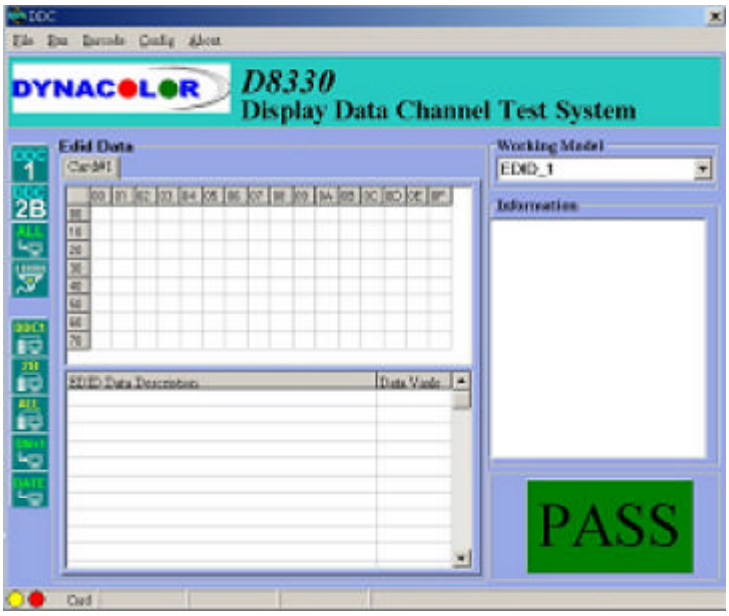



2-3. EDID-Analog data update. Here is analog cable installation method:

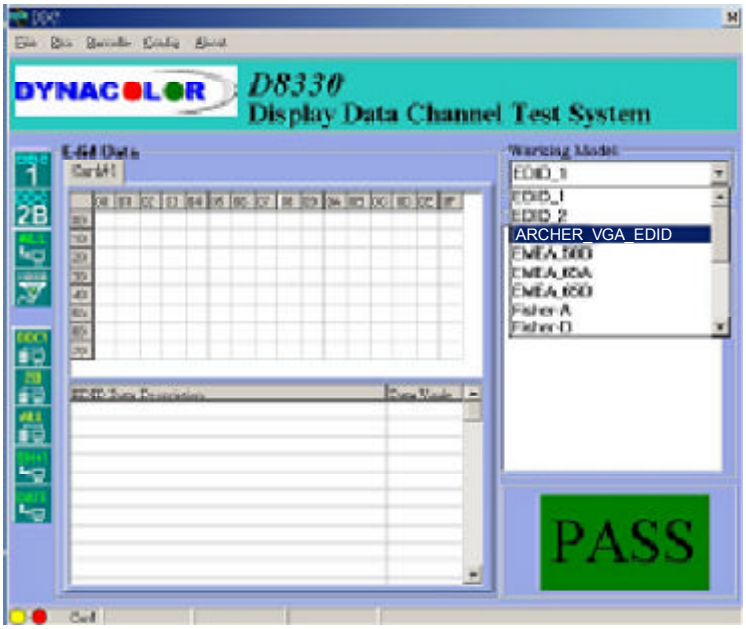


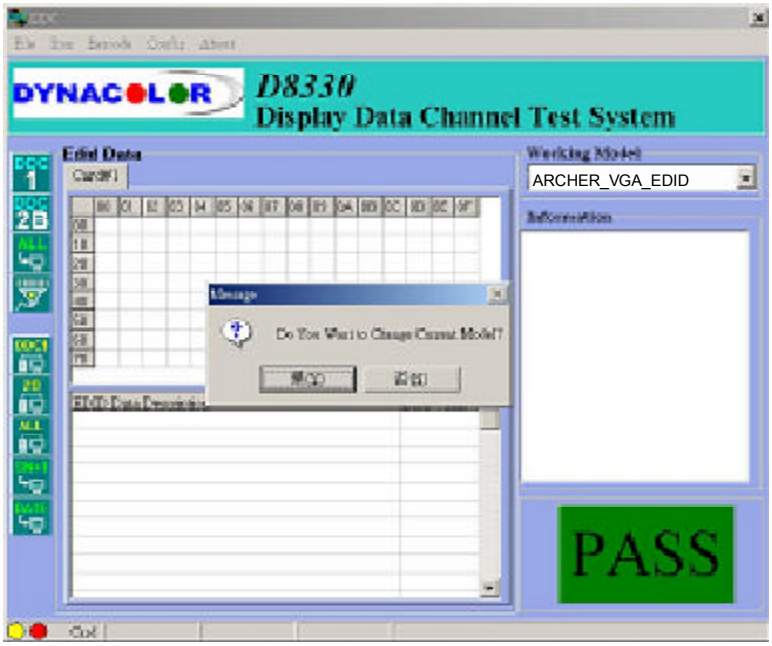
Plug power cord on your TV , Switch Power on, then press power button in the front keypad. Double-click “DDC” icon to execute D8330 Display Data Channel Testing System. (about install “DDC” software. Please reference D8330 Display Data Channel Testing System user’s manual )

Then ,you can see this picture:

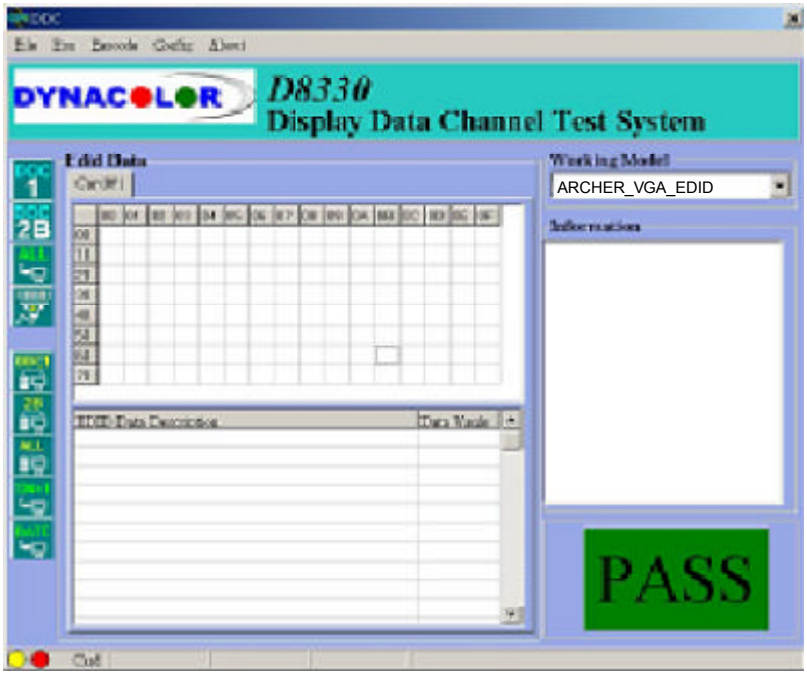



Select “Working Model” to Archer. If can’t find the ARCHER_VGA_EDID ,please see Notice 3-2



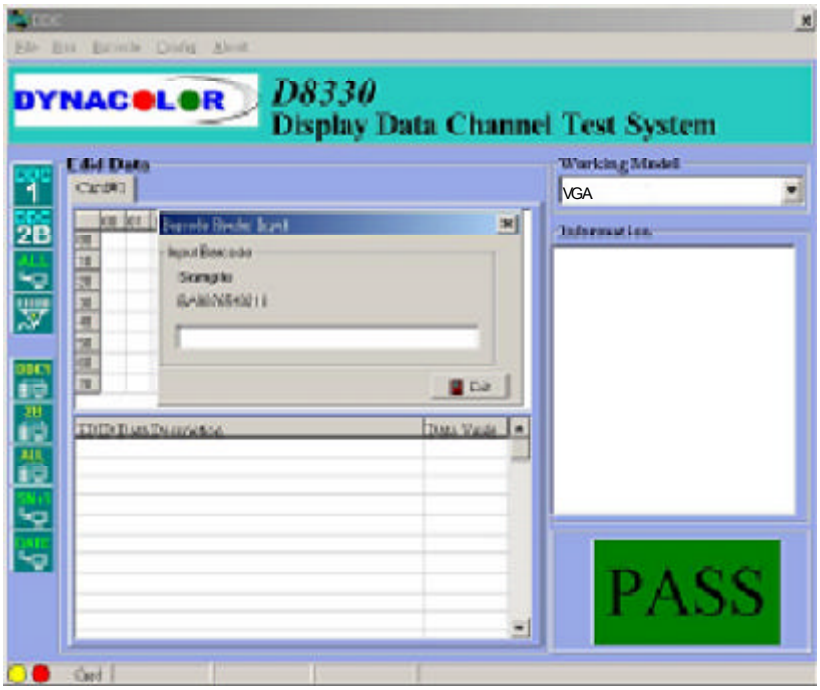



Then select “Yes” selection.

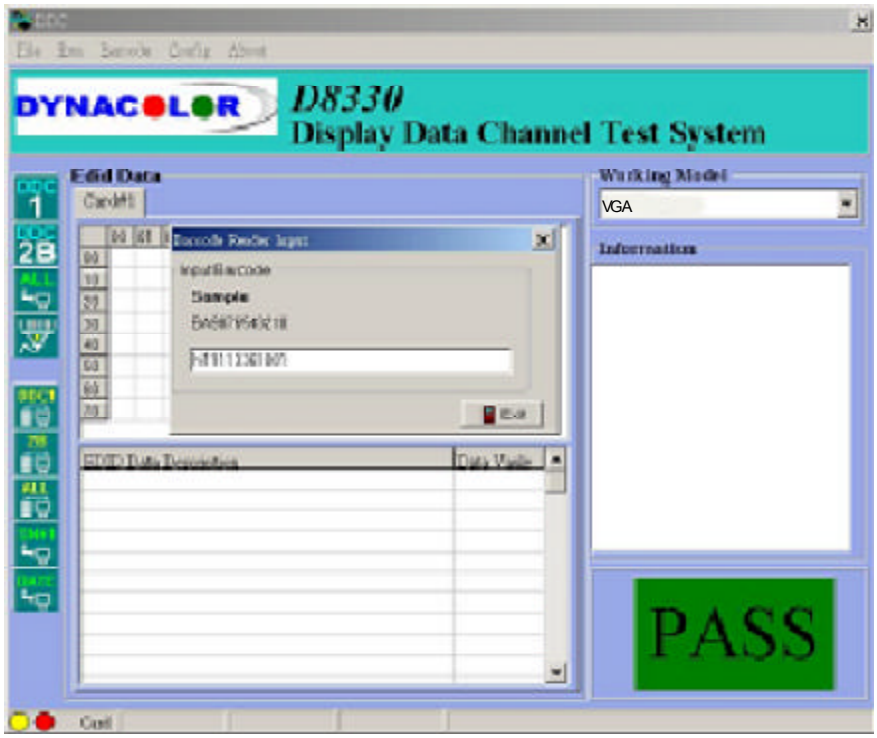



Execute function button in the left area .

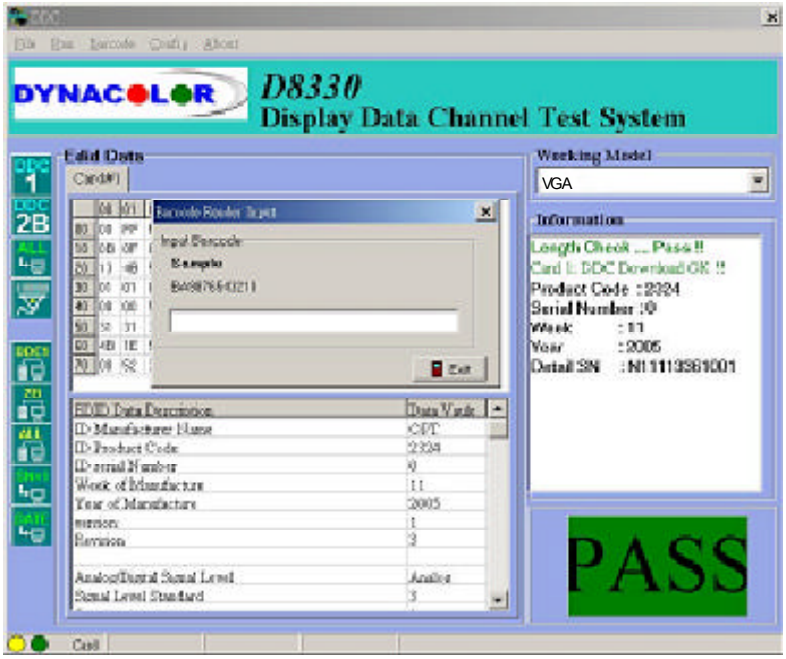
You can see this picture:




Then key in Serial Number . (See Notice 3-3)



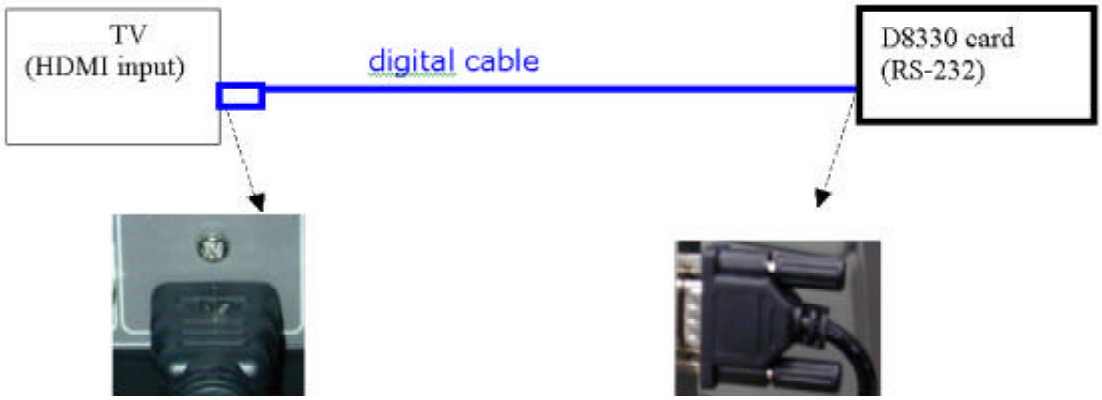
After press “Enter” key in your keyboard to execute. It will show “PASS” Infor mation like this picture:




From now, you have finished the EDID-analog data update. If you want to continue update EDID-digital data , please don¡¦t power off your TV. Then go to 2-4 procedure.

2-4. EDID-digital data update

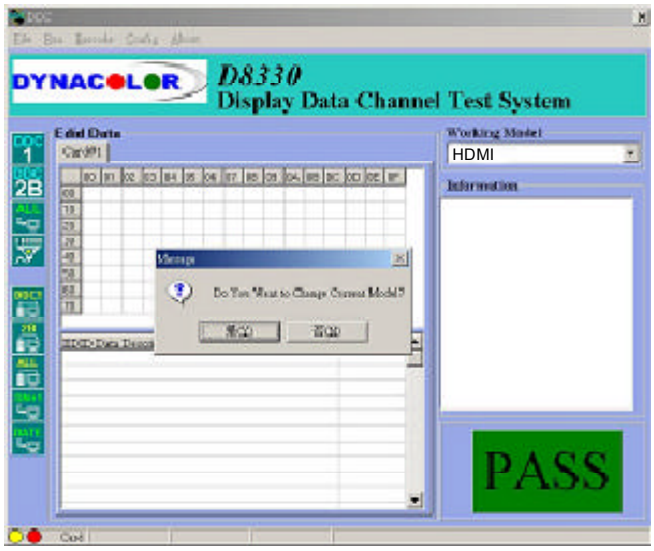
Here is communication cable installation method:



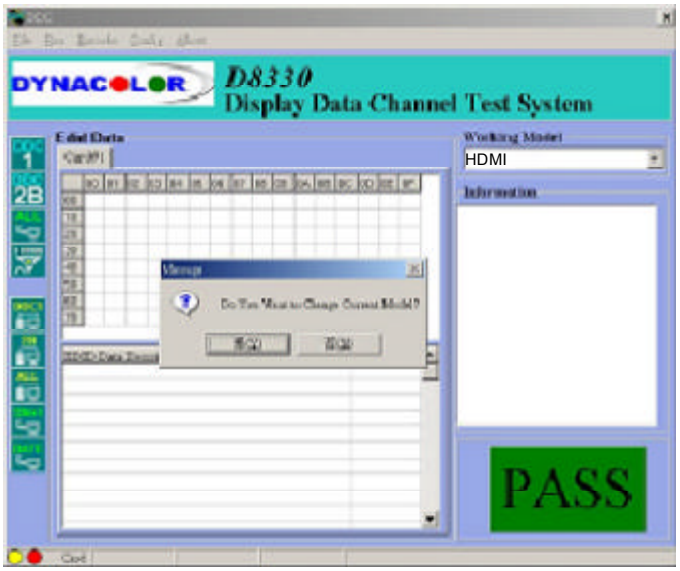
Please check your TV in the power on mode (it means the power light indicator in the front keypad is green )

Double-click “DDC”icon to execute D8330 Display Data Channel Testing System. (About install “DDC” software. Please reference D8330 Display Data Channel Testing System user¡¦s manual )

Then ,you can see this picture:

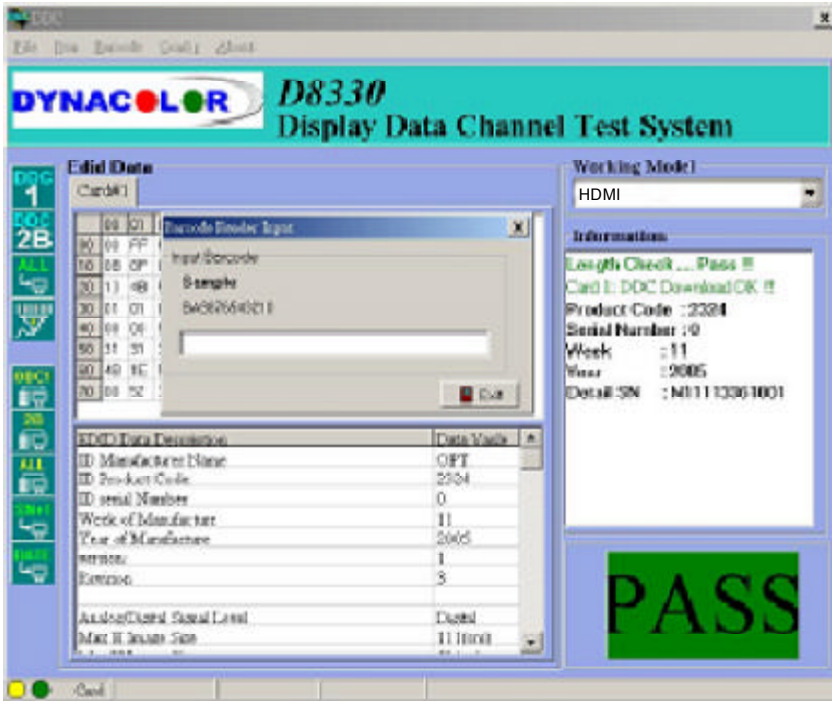



Select “Working Model” to EMEA_50D.
If can’t find the ARCHER_HDMI_EDID , please see Notice 3-2

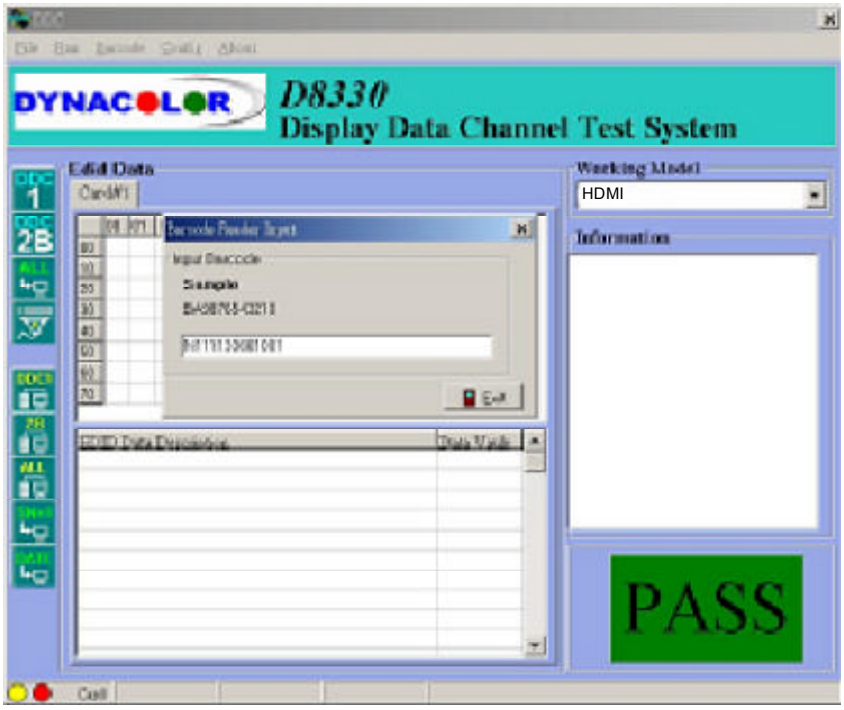


Execute “ “ function button in the left area .

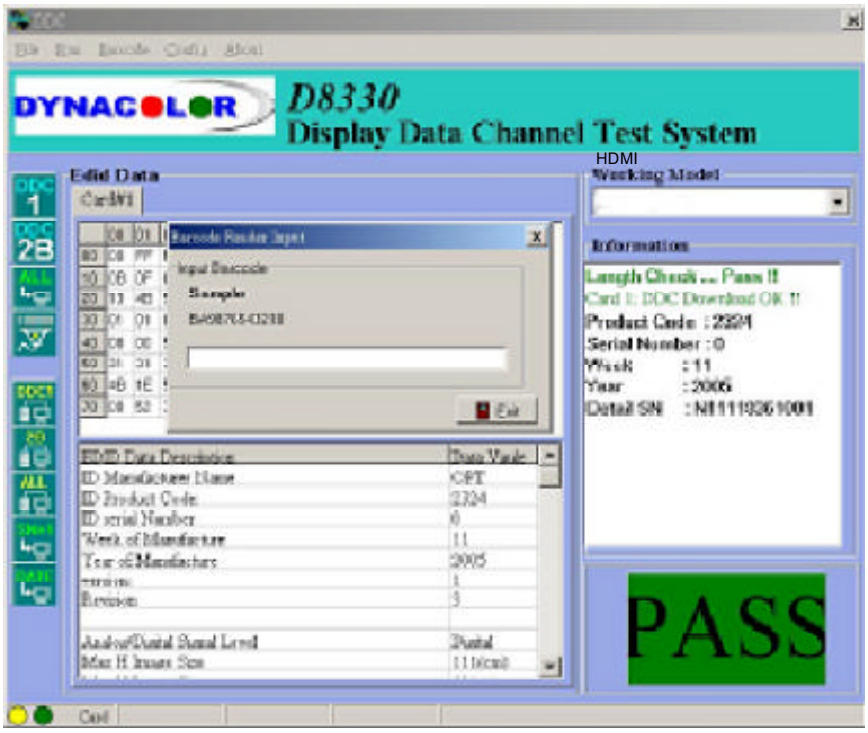
You can see this picture:




Then key in Serial Number . (See Notice 3-3)



After press “Enter” key to execute. It will show “PASS” Information like this picture:




From now, you have finished the EDID-digital data update.

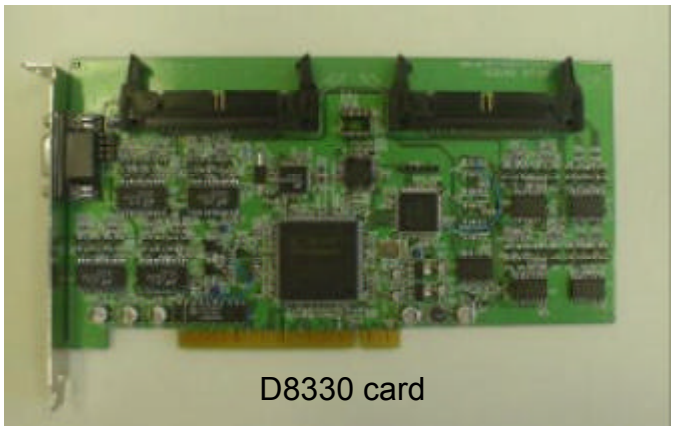
## 3. Notice: (this update is not supported)

(we use WINXP SP1 OS do example ) Here is the cable linkage method:

3-1. D8330 is a VESA Display Data Channel (DDC) test system. The versatile functions of D8330 include download of DDC data from PC to display unit for configuration, or upload of DDC data from display unit to PC for verification, parsing, and editing. D8330 also offers multi-channel test capability once display unit equips with multiple signal inputs (VGA, DVI). It developed and manufactured from DynaColor, Inc.
More information please reference http://www.dynacolor.com.tw
The full D8330 Display Data Channel Testing System including:

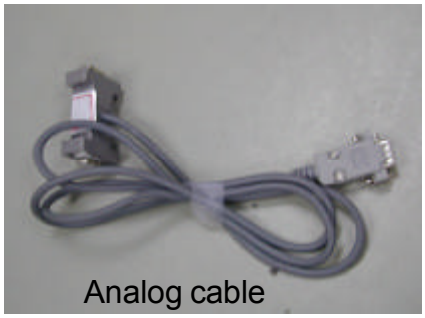
1. D8330 card
2. Interface cable ( including digital and analog cable )
3. CD-ROM (D8330 software & user’s manual )

Please reference D8330 User’s Manual.



D8330 card

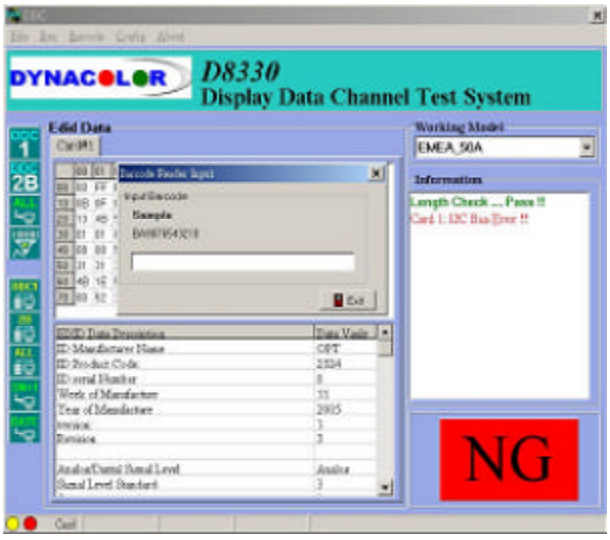
Digital cable



Analog cable

3-2. ARCHER_VGA_EDID.BIN , ARCHER_HDMI_EDID.BIN
They including EDID data , it's text file. It should put in C:\Program Files\DynaColor\DDC\data dictionary.

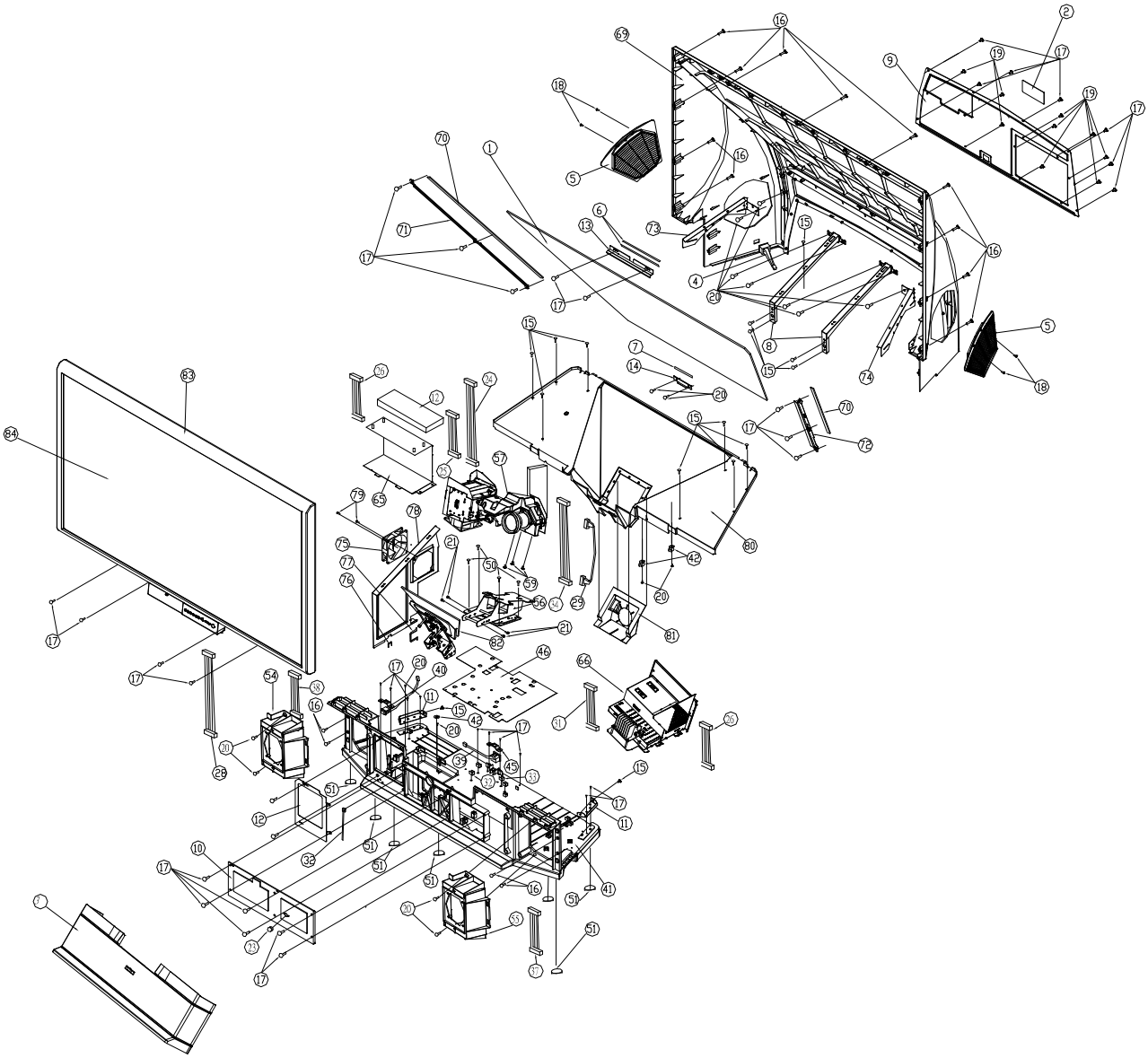
3-3. If you key in incorrect serial number or TV doesn't power on it will show this picture:



# Appendix A

## Exploded Overview

### I. Archer 50” RPTV



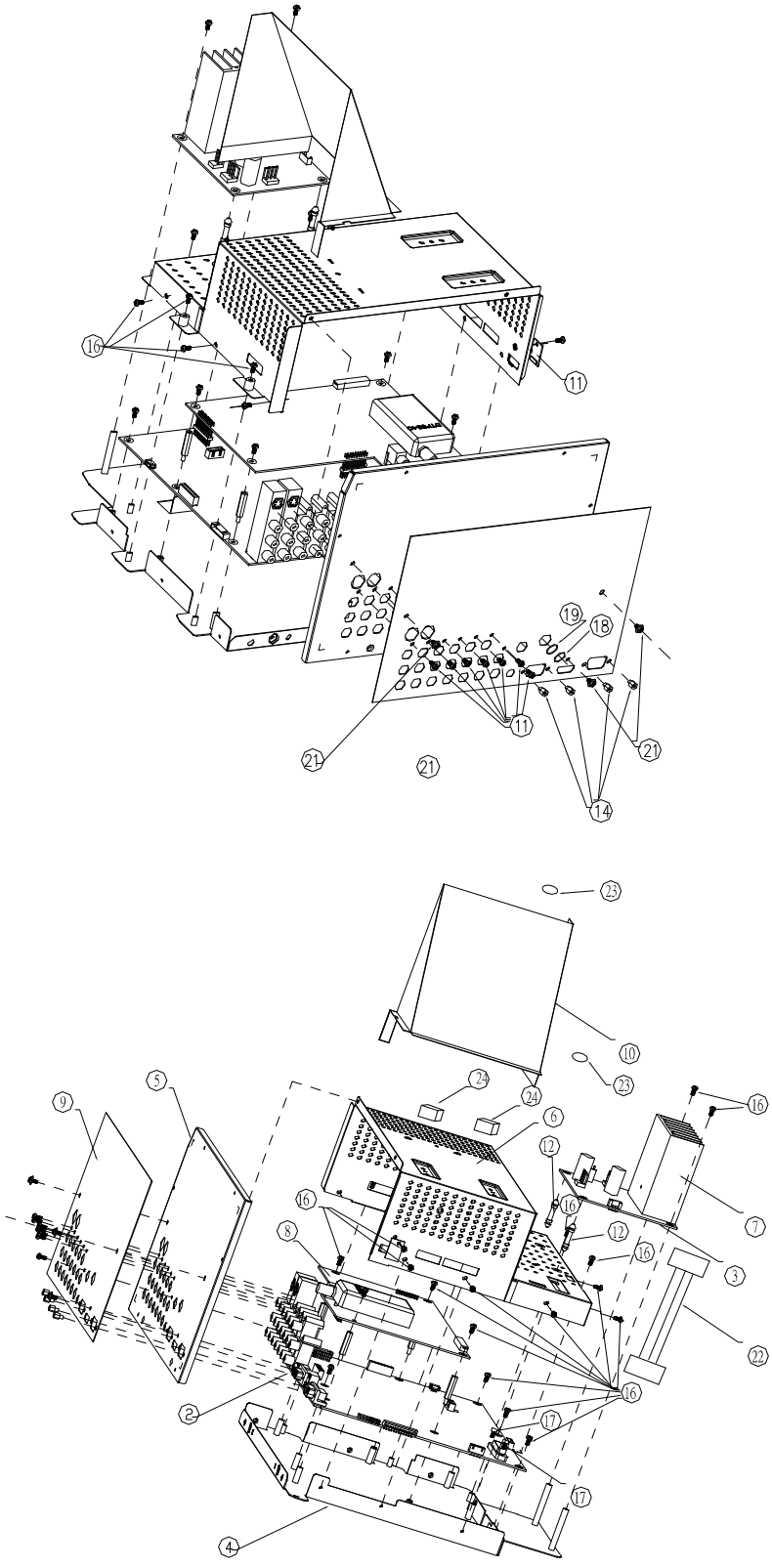
## Exploded Parts List

| Item | Description |
|---|---|
| 1 | Big mirror, 50inch RPTV, Beethoven |
| 2 | Spec. label RP50H, Beethoven |
| 3 | BAFFLE MODULE ARCHER |
| 4 | ROCK SWITCH 230mm |
| 5 | AIR VENT WITH METAL FILTER |
| 6 | Big mirror top hook sponge |
| 7 | Big mirror bottom hook sponge |
| 8 | Light shielding beam |
| 9 | Rear service cover |
| 10 | Front service cover |
| 11 | Brkt for mounting rear housing |
| 12 | PHILIPS BALLAST FOR ARCHER |
| 13 | Big mirror top hook |
| 14 | Big mirror bottom hook |
| 15 | Screw machine pan M4x8 Nylok Black |
| 16 | Screw binding tap 2L M4x20 Black |
| 17 | Screw binding tap 2L M4x12 Black |
| 18 | Screw flat mech M3x8 Black |
| 19 | Screw cap mech M3x6 Black |
| 20 | Screw machine tap1 leader m4x8 Black |
| 21 | Screw machine socket M4x10 Ni FW + SW |
| 22 | SCREW I/O STEEL #4-40 UNC*H4*L8 Ni Nylok |
| 23 | HOLE PLUGS M13 "KANG-YANG" |
| 24 | W.A LVPS TO FORMATER/MAIN BD DTV BD ARCHER |
| 25 | W.A BALLASTER TO MAIN BD ARCHER |
| 26 | LVPS TO AMP BD 550MM WITH CORE |
| 27 | W.A. MAIN BD TO FORMATER BD FOR CONTROL "ARCHER" |
| 28 | W.A MAIN BD TO KEYPAD/BD ARCHER |
| 29 | W.A MAIN BD TO LVDS FORMATER/BD ARCHER |
| 30 | W.A MAIN BD TO FRONT IO ARCHER |

| Item | Description |
|---|---|
| 31 | W.A. AMP/BD TO MAIN/BD 5P 220mm |
| 32 | CABLE TIE CHK-12 d" |
| 33 | CABLE TIE CK-14A |
| 34 | W.A MAIN/BD TO SYSTEM FAN AND LAMP AND THERMAL SWITCH |
| 35 | SCREW PAN MECH M3*6 Ni |
| 36 | |
| 37 | W.A AMP TO SPEAKER RIGHT ARCHER |
| 38 | W.A AMP TO SPEAKER LEFT ARCHER |
| 39 | CABLE LVPS TO REAR COVER 550mm |
| 40 | W.A INTERLOCK SWITCH TO LVPS 220mm |
| 41 | Bottom base ARCHER |
| 42 | Wire saddle CHF-11, Beethoven |
| 43 | |
| 44 | |
| 45 | AC receptacle bracket |
| 46 | System grounding foil |
| 47 | Screw S truss wood M4x24 black |
| 48 | Screw pan machine M5x40 Ni |
| 49 | WASHER FLAT 12X5.3X1.0 Ni |
| 50 | Screw truss wood M4x30 Color |
| 51 | RUBBER FOOT R2304 |
| 52 | |
| 53 | Screw truss wood M3x12 Color |
| 54 | ASSY SPEAKER MDULE LEFT ARCHER |
| 55 | ASSY SPEAKER MODULE RIGHT ARCHER |
| 56 | |
| 57 | ASSY 50" HD4 ARCHER ENGING |
| 58 | Engine fixed bkt |
| 59 | Screw FLAT nech W/O M4x8 nylok |

| Item | Description |
|---|---|
| 61 | |
| 62 | Snap rivet SR-3S |
| 63 | Snap saddle SR-3S |
| 64 | |
| 65 | ASSY POWER SUPPLY MODULE ARCHER |
| 66 | ASSY MAIN BOARD MODULE ARCHER |
| 67 | ASSY REAR I/O MODULE, BEETHOVEN |
| 68 | |
| 69 | Rear housing |
| 70 | Big mirror sponge 3mm Beethoven |
| 71 | Big mirror holder-left |
| 72 | Big mirror holder-right |
| 73 | Brkt air vent - left |
| 74 | Brkt air vent - right |
| 75 | MISC SANYODENKI AXIAL;9A0912F406 |
| 76 | Wire saddle DS-2, Beethoven |
| 77 | Wire saddle DS-23, Beethoven |
| 78 | Airtight wall |
| 79 | Screw machine pan M4x30 Nylok black |
| 80 | Light Shielding plate |
| 81 | Light Shielding rubber |
| 82 | ASSY ENGINE ADJUSTMENT ARCHER |
| 83 | SCREW FRAME HOUSING ARCHER |
| 84 | ASSY SCREEN, 50inch RPTV, BEETHOVEN |
| | |
| | |
| | |
| | |

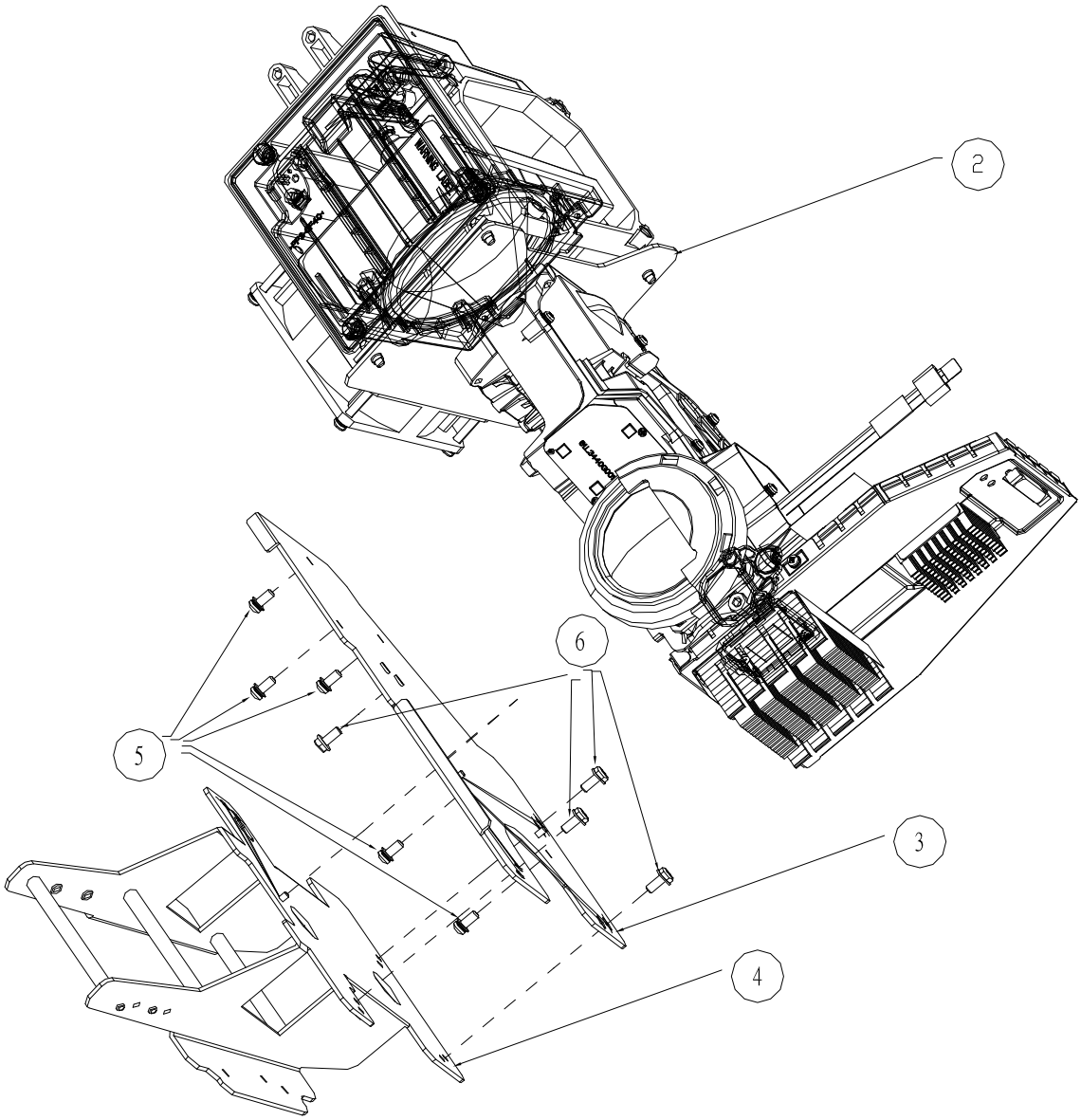
## II. Archer 50” RPTV



## Exploded Parts List

| Item | Description |
|---|---|
| 1 | ASSY MAIN BOARD MODULE ARCHER |
| 2 | PCBA MAIN BOARD FOR ARCHER |
| 3 | PCBA POWER AMPLIFIER BD NEW YORK |
| 4 | MAIN BOARD CHASSIS ARCHER |
| 5 | REAR I/O PLATE ARCHER |
| 6 | MAIN BOARD COVER ARCHER |
| 7 | AMPLIFIER BOARD HEAT SINK |
| 8 | DIGITAL TUNNER MODULE FOR ARCHER DST |
| 9 | REAR I/O LABEL ARCHER |
| 10 | THERMAL MAINMODULE DUCT |
| 11 | PCBA THERMAL BOARD FOR ARCHER |
| 12 | SPACER SUPPORT LCAS-16M |
| 13 | SCREW HEX M3*22*6MM NYLOK NI |
| 14 | SCREW I/O STEEL #4-40UNC*H5*L4 NYLOK |
| 15 | SCREW PAN MECH M3*8 NI |
| 16 | SCREW PAN MECH M3*6 NI |
| 17 | SCREW FOR LVDS CNNT ARCHER |
| 18 | NUT 3/8*32*11 NI |
| 19 | WASHER FLAT 3/8*0.5*13 NI |
| 20 | SCREW TAP 1 LEAD M3*8 P-TYPE  BLACK |
| 21 | SCREW CAP MECH M3*6 BLACK |
| 22 | W.A. AMP/BD TO MAIN/BD 5P 220MM |
| 23 | CABLE MOUNT MB-2 |
| 24 | CABLE TIE CKK-05 |

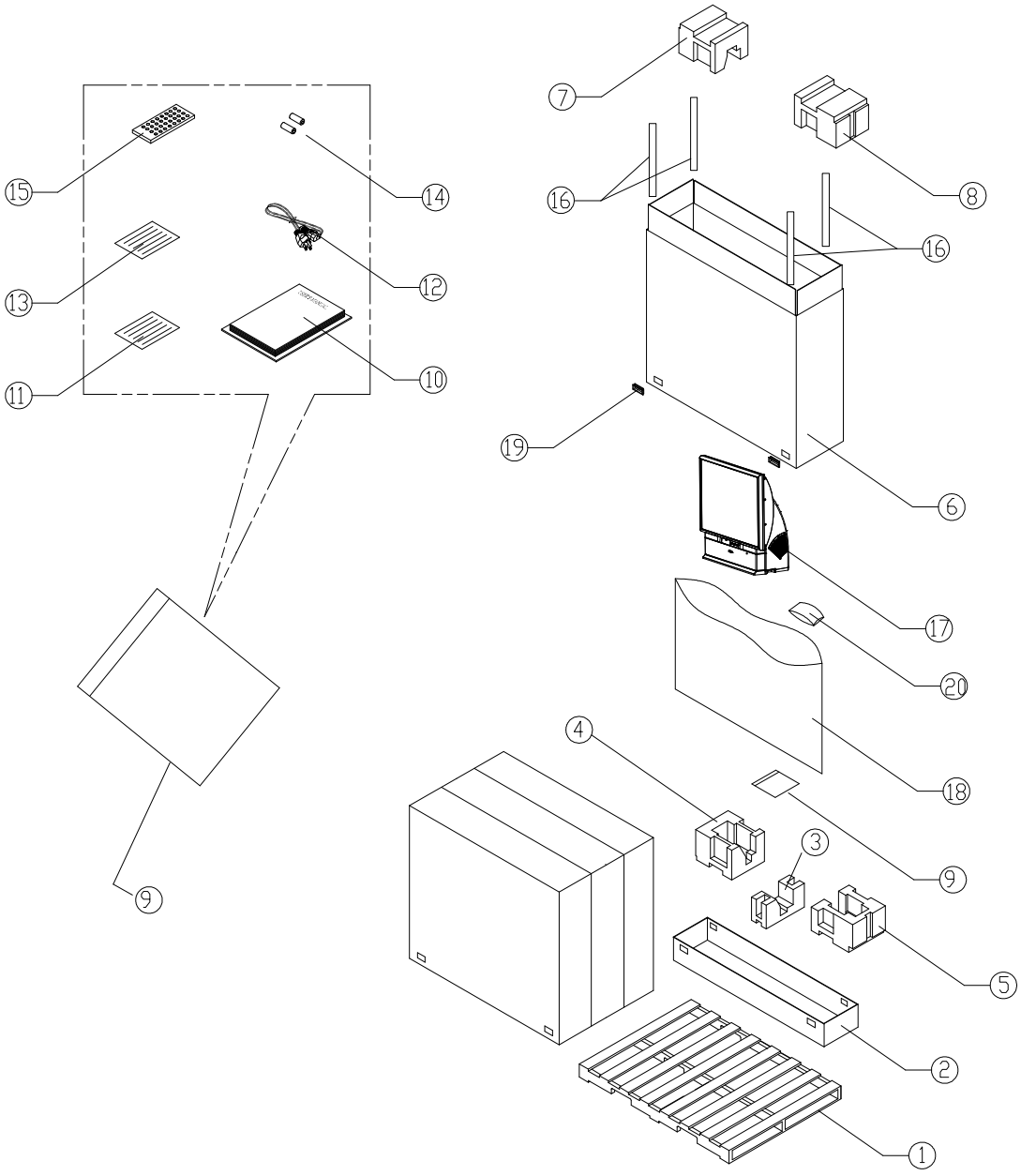
## III. Archer 50” RPTV




### Exploded Parts List

| Item | Description |
|---|---|
| 1 | ASSY ENGINE MODULE ARCHER |
| 2 | ASSY 50" HD4 ARCHER ENGINE |
| 3 | ENGINE FIXED BRKT ARCHER ENGINE |
| 4 | ENGINE R-L BRKT ARCHER (3AXIS) |
| 5 | SCREW PAN MECH W/SF M4*10 NYLOK NI |
| 6 | SCREW BINDING TAP 2L M4*12 BLACK |

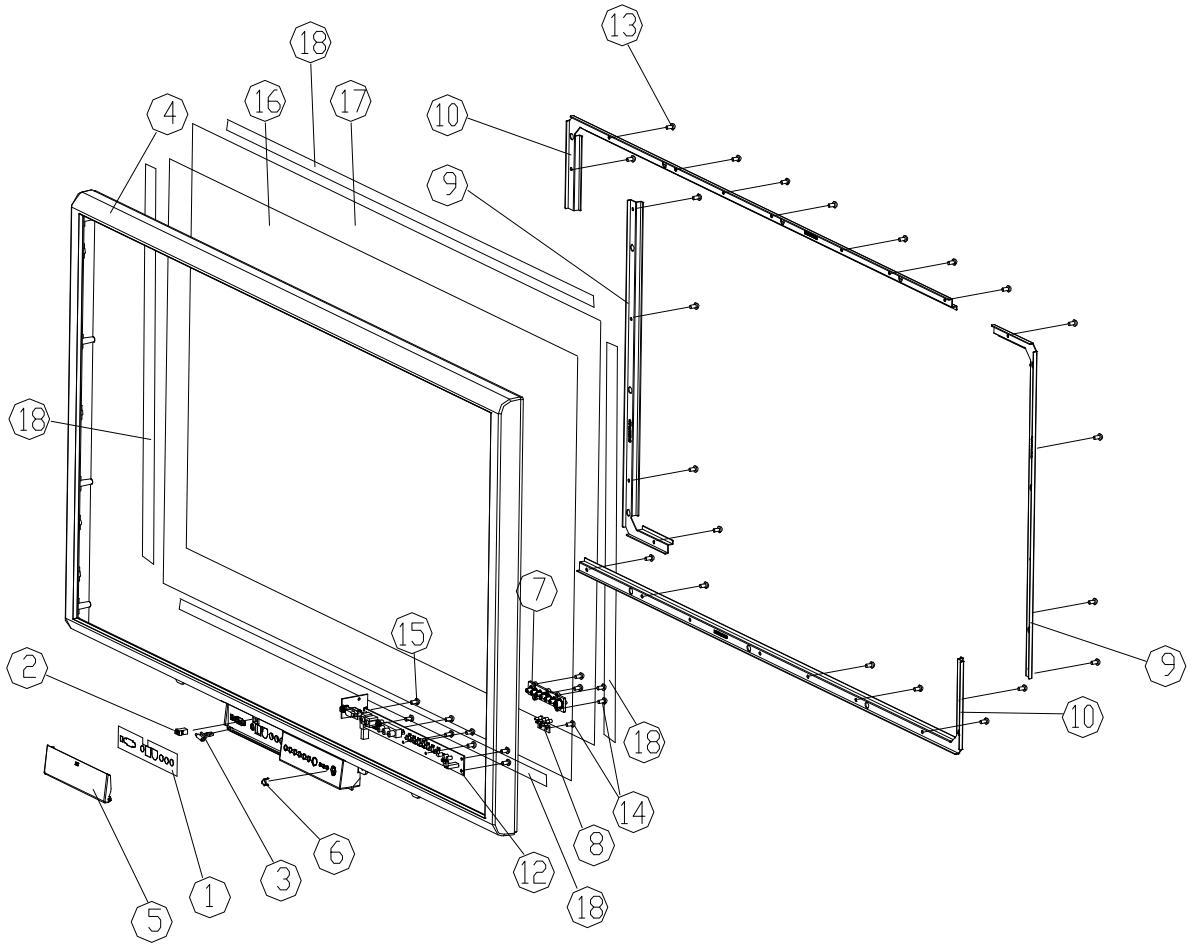
## IV. Archer 50” RPTV



## Exploded Parts List

| Item | Description |
|---|---|
| 1 | WOOD PALLET 122*102*13cm FOR ARCHER |
| 2 | CARTON CUSHION BOTTOM ARCHER |
| 3 | CUSHION(BOTTOM MIDDLE) EPS |
| 4 | CUSHION(BOTTOM) LEFT EPS |
| 5 | CUSHION(BOTTOM) RIGHT EPS |
| 6 | CARTON SC-TYPE MID ARCHER |
| 7 | CUSHION(TOP) LEFT EPS |
| 8 | CUSHION(TOP) RIGHT EPS |
| 9 | PE BAG 340*240*0.04MM(10#) ARCHER |
| 10 | USER'S MANUAL ARCHER |
| 11 | WARRANTY CARD ARCHER |
| 12 | CABLE POWER CORE 1830MM SP30+IS14 |
| 13 | QUICK REFERENCE CARD ARCHER |
| 14 | BATTERY #4 1.5V |
| 15 | REMOTE CONTROLLER ARCHER |
| 16 | CARTON CORNER 5*5*99 CM ARCHER |
| 17 | D.C. RPTV 50 ARCHER |
| 18 | PE BAG 120*80*200*0.08CM EP652 |
| 19 | HANDLE VX3600 |
| 20 | DESICCATIVE 250g,BEETHOVEN |

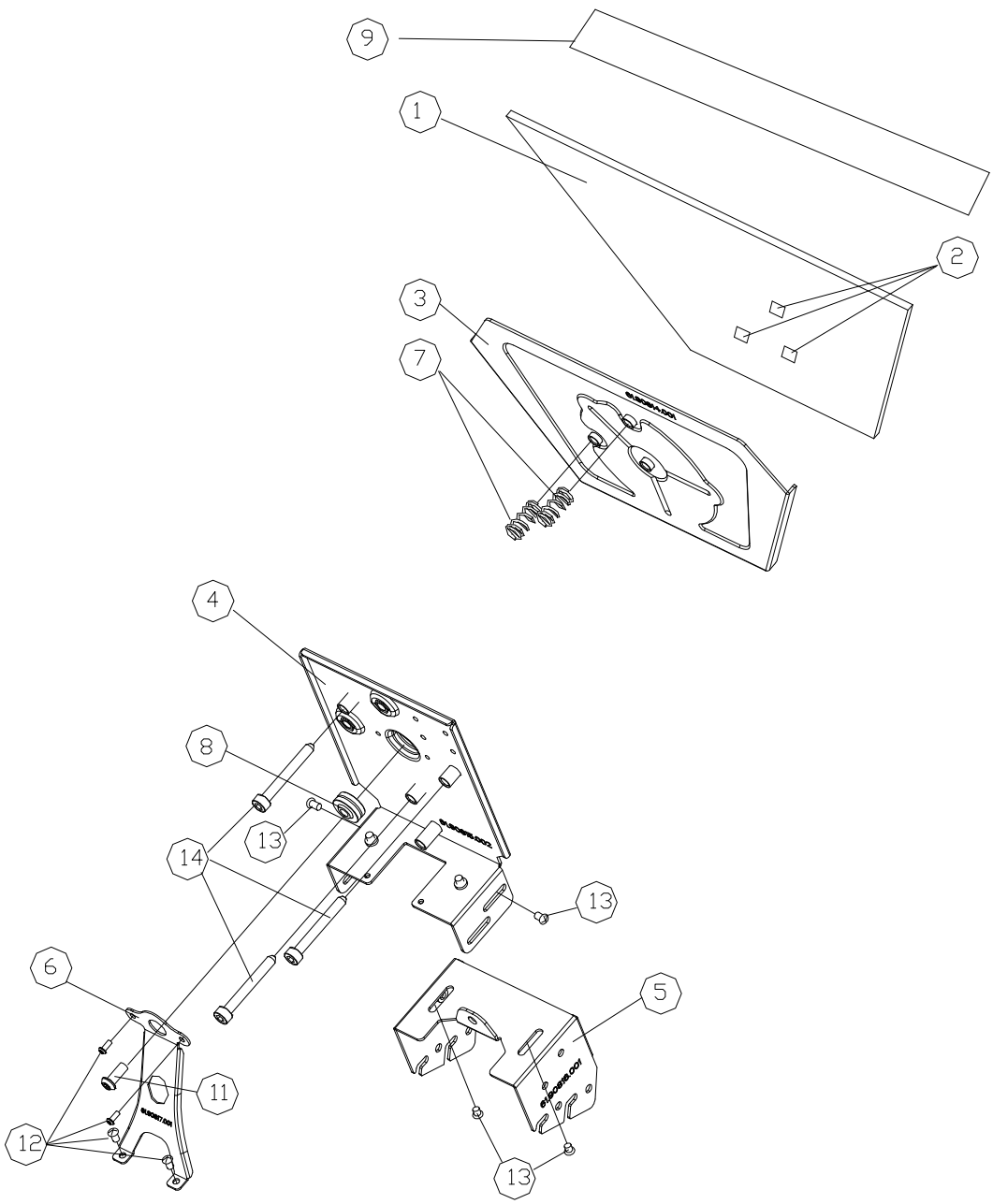
## V. Archer 50” RPTV



## Exploded Parts List

| Item | Description |
|---|---|
| 1 | Front I/O label ARCHER |
| 2 | DOOR LOCK , DL-400D BLACK PINGOOD EP652 |
| 3 | DAMPER, 001K-A-F-999-30 TIFCO |
| 4 | Screen frame housing ARCHER |
| 5 | Front I/O cover ARCHER |
| 6 | IR Receiver cover |
| 7 | Keypad button ARCHER |
| 8 | Led light guide |
| 9 | Brkt for screen left & right |
| 10 | Brkt for screen up & down |
| 11 | |
| 12 | PCBA KEYPAD BOARD FOR ARCHER |
| 13 | Screw machine tap1 leadr m4x8 Black |
| 14 | Screw pan tap M3x5 Ni LMT-5020 |
| 15 | Screw Mmachine tapi lead M3*8 black |
| 16 | Lenticular for screen, Beethoven |
| 17 | Fresnel for screen, Beethoven |
| 18 | AC402 W=17mm, Beethoven |

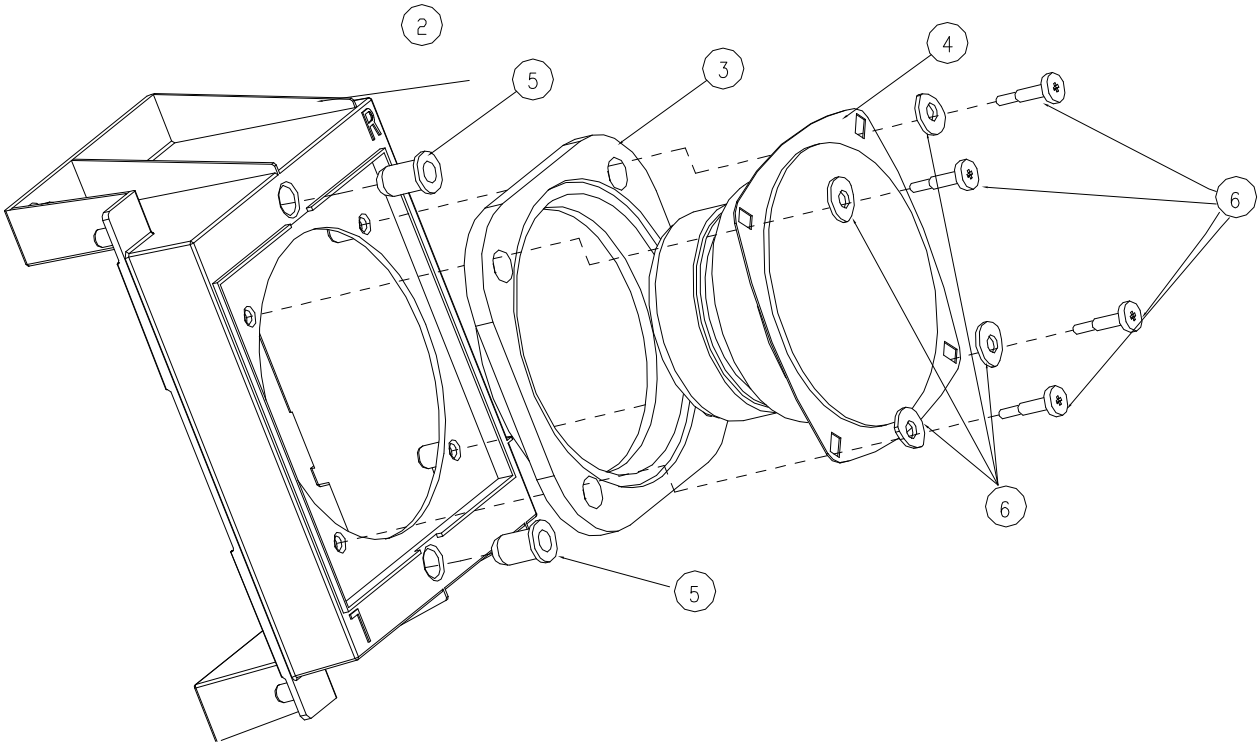
## VI. Archer 50” RPTV



## Exploded Parts List

| Item | Description |
|---|---|
| 1 | Small mirror, 50inch RPTV, Beethoven |
| 2 | Double glue tape 15*25 3M #4930 VX3600 |
| 3 | Small mirror plate |
| 4 | Small mirror adjustable holder, Beethoven |
| 5 | Small mirror base |
| 6 | Small mirror support holder |
| 7 | Small mirror spring - 1 |
| 8 | Ball bearing PB5 |
| 9 | SHIELDING FOLDER MIRROR ARCHER |
| 10 | |
| 11 | Screw machine M5x12 Ni Nylok |
| 12 | Screw pan machine M3*8 Ni FW + SW Nylok |
| 13 | Screw machine socket M4x10 Ni FW + SW |
| 14 | Screw ball head Ni M5*25 NYLOK |

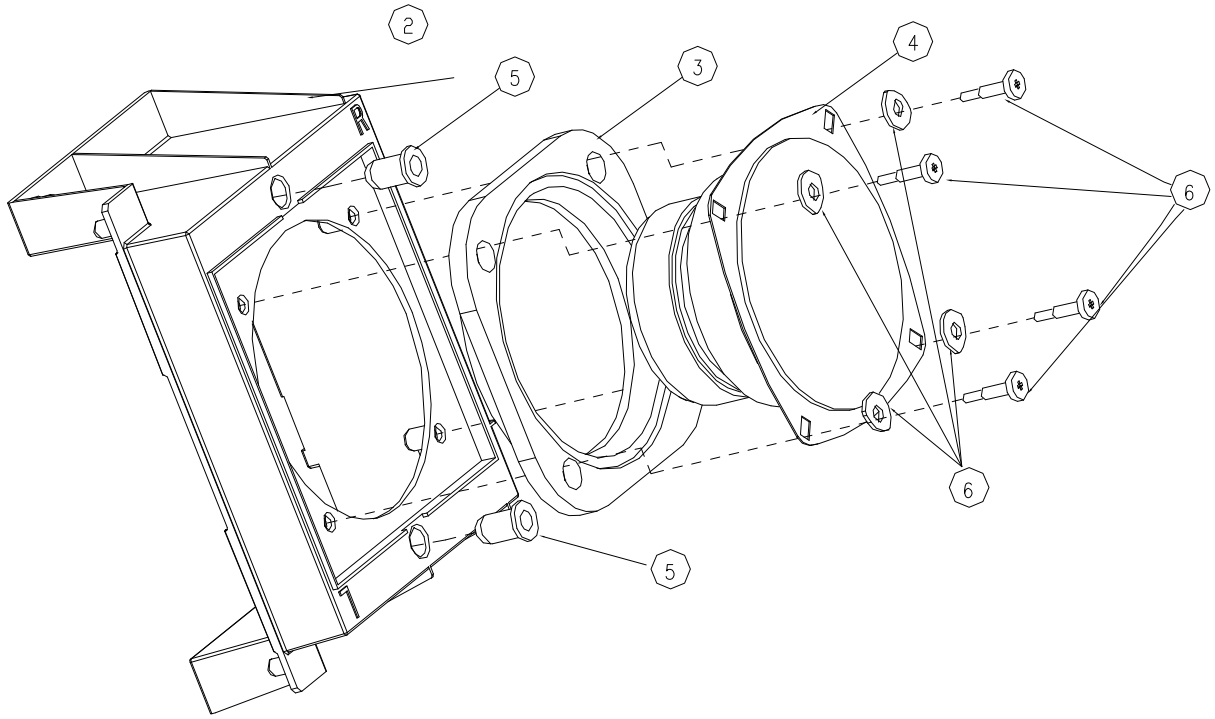
## VII. Archer 50” RPTV




### Exploded Parts List

| Item | Description |
|---|---|
| 1 | ASSY SPEAKER MODULE RIGHT ARCHER |
| 2 | SPEAKER BRACKET ARCHER |
| 3 | RUBBER FOR SPEAKER ARCHER |
| 4 | SPEAKER DRIVER 4" 15W 8 |
| 5 | CABINET PLUG D03-01 SHAN LONG EP652 |
| 6 | RUBBER FOR SPEAKER SCREW ARCHER |
| 7 | SCREW FOR SPEAKER ARCHER |

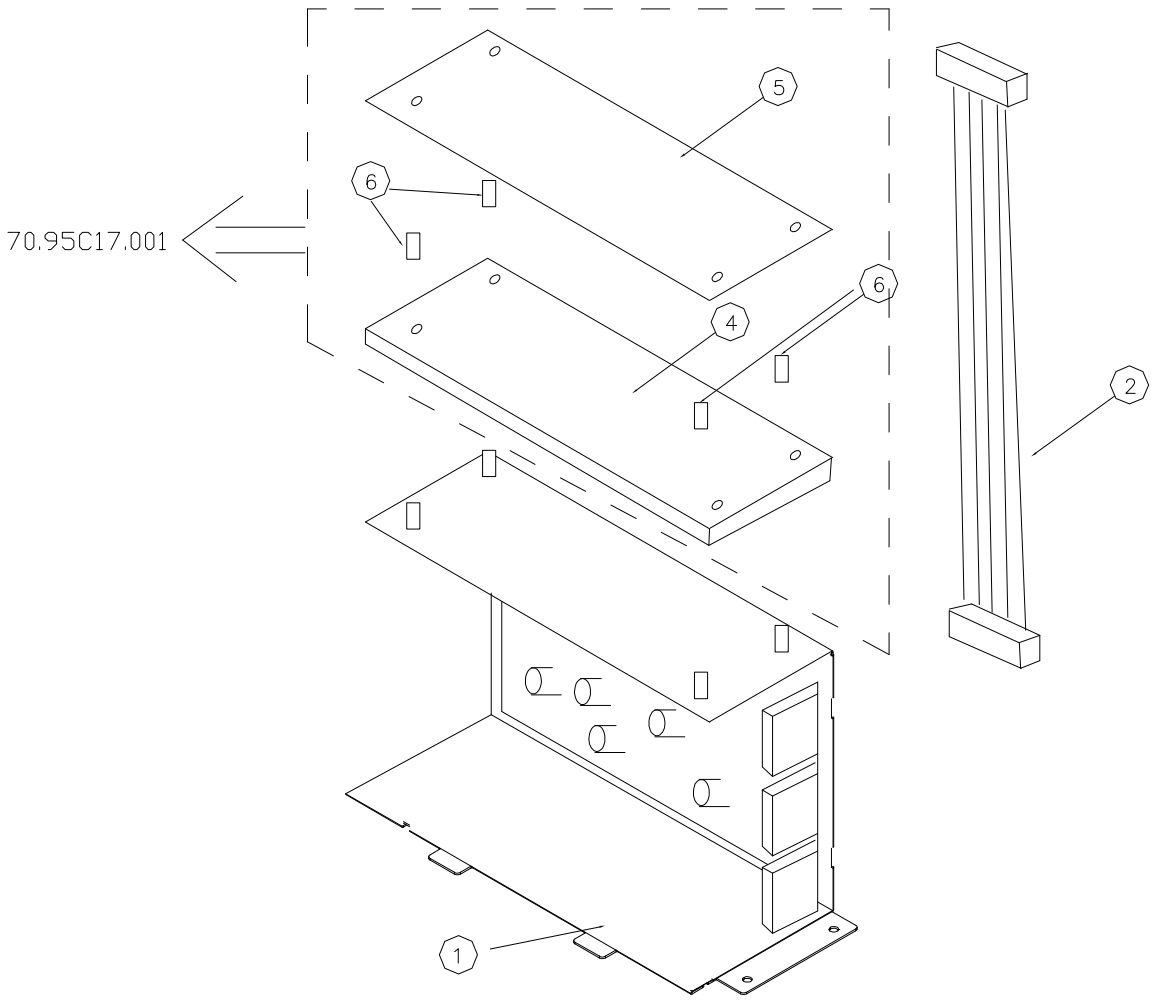
## VIII. Archer 50” RPTV




### Exploded Parts List

| Item | Description |
|---|---|
| 1 | ASSY SPEAKER MODULE LEFT ARCHER |
| 2 | SPEAKER BRACKET ARCHER |
| 3 | RUBBER FOR SPEAKER ARCHER |
| 4 | SPEAKER DRIVER 4" 15W 8 |
| 5 | CABINET PLUG D03-01 SHAN LONG EP652 |
| 6 | RUBBER FOR SPEAKER SCREW ARCHER |
| 7 | SCREW FOR SPEAKER ARCHER |

## IX. Archer 50” RPTV



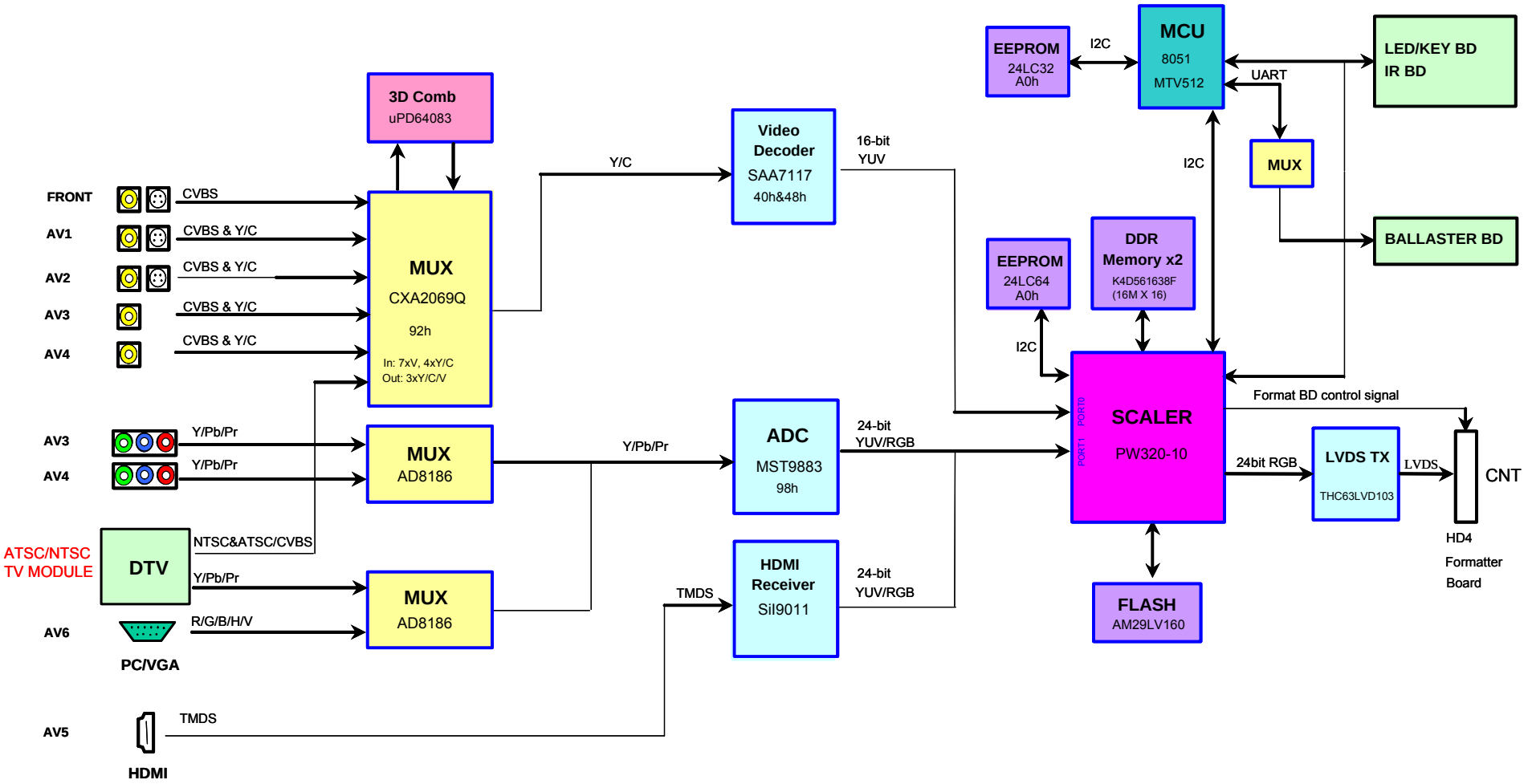

### Exploded Parts List

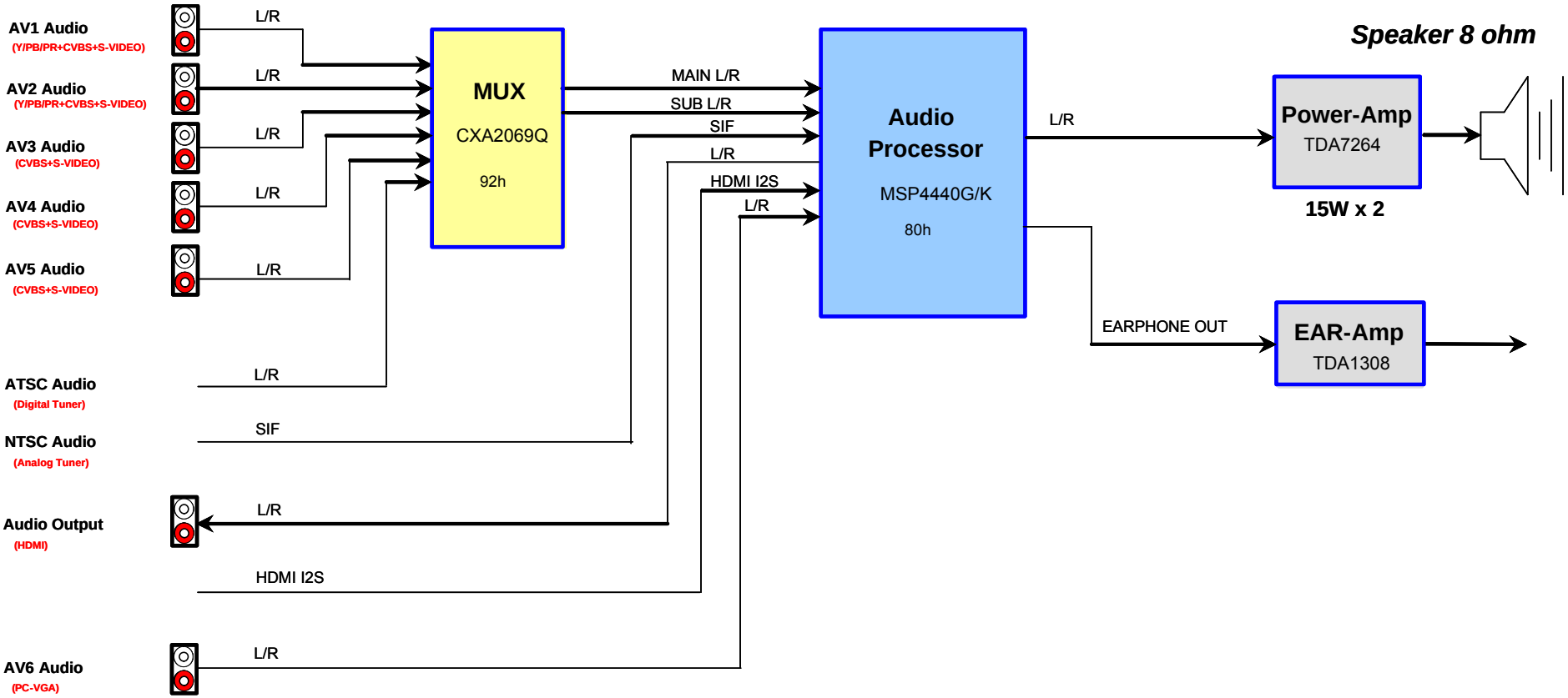
| Item | Description |
|---|---|
| 1 | LVPS 267W FOR ARCHER |
| 2 | WA. LVPS TO BALLASTER 3P 350mm |
| 3 | ASSY SHIELDING MODULE FOR LVPS ARCHER |
| 4 | SHIELDING PLATE FOR LVPS ARCHER |
| 5 | MYLAR FOR LVPS ARCHER |
| 6 | SPACER SUPPORT RCM-5 |

**RSPL Philips 50" TV**

Date: May 6, 2005 - ver. 2

| Part Number | Description | Ver. |
|---|---|---|
| 42.90806.001 | W.A. AMP/BD TO MAIN/BD 5P 220mm | A |
| 42.91402.001 | WA. LVPS TO BALLASTER 3P 350mm | A |
| 42.95C01.001 | W.A MAIN BD TO KEYPAD/BD ARCHER | A |
| 42.95C02.001 | W.A MAIN BD TO LVDS FORMATER/BD ARCHER | A |
| 42.95C03.001 | W.A MAIN/BD TO SYSTEM FAN AND | A |
| 42.95C04.001 | W.A AMP TO SPEAKER RIGHT ARCHER | A |
| 42.95C05.001 | W.A AMP TO SPEAKER LEFT ARCHER | A |
| 42.95C06.001 | W.A MAIN BD TO FRONT IO ARCHER | A |
| 42.95C09.001 | W.A BALLASTER TO MAIN BD ARCHE | A |
| 42.95C10.001 | W.A LVPS TO FORMATER/MAIN BD ARCHER | A |
| 42.95C11.001 | LVPS TO AMP BD 550MM WITH CORE | A |
| 42.95C14.001 | W.A THERMAL BD ARCHER | A |
| 42.95C15.001 | W.A. MAIN BD TO FORMATER BD FO | A |
| 43.90805.001 | W.A.INTERLOCK SWITCH TO LVPS 220mm | A |
| 45.95C01.001 | REMOTE CONTROLLER ARCHER | A |
| 49.95C01.001 | MISC SANYODENKI AXIAL;9A0912F406 | A |
| 51.95C04.001 | KEYPAD BUTTON ARCHER | A |
| 51.95C05.001 | SPEAKER BRACKET ARCHER | A |
| 61.90840.001 | REAR SERVICE COVER | A |
| 61.90842.001 | FRONT SERVICE COVER | A |
| 61.90845.001 | LAMP DOOR | A |
| 61.95C11.001 | SCREW FOR SPEAKER ARCHER | A |
| 70.90805.001 | ASSY SCREEN, 50INCH RPTV, BEETHOVEN | A |
| 75.95C01.001 | LVPS 267W FOR ARCHER | A |
| 75.95C02.001 | PHILIPS BALLAST FOR ARCHER | A |
| 75.95C03.001 | DIGITAL TUNER MODULE FOR ARCHER DST | A |
| 75.95C04.001 | ASSY 50" HD4 ARCHER ENGING | A |
| 80.90806.004 | PCBA POWER AMPLIFIER BD NEW YORK | A |
| 80.95C01.002 | PCBA MAIN BOARD FOR ARCHER | V01 |
| 80.95C02.001 | PCBA KEYPAD BOARD FOR ARCHER | A |
| 80.95C06.001 | PCBA THERMAL BOARD FOR ARCHER | A |
| SP.L6502G001 | Spare part of R4A lamp changer module for philips only | A |


3D Comb
uPD64083
FRONT
AV1
AV2
AV3
AV4
CVBS
CVBS & Y/C
CVBS & Y/C
CVBS & Y/C
CVBS & Y/C
MUX
CXA2069Q
92h
In: 7xV, 4xY/C
Out: 3xY/C/V
Y/C
Video Decoder
SAA7117
40h&48h
16-bit YUV
AV3
AV4
Y/Pb/Pr
Y/Pb/Pr
MUX
AD8186
Y/Pb/Pr
ADC
MST9883
98h
24-bit YUV/RGB
ATSC/NTSC TV MODULE
DTV
NTSC&ATSC/CVBS
Y/Pb/Pr
AV6
R/G/B/H/V
PC/VGA
MUX
AD8186
TMDS
HDMI Receiver
Sil9011
24-bit YUV/RGB
AV5
TMDS
HDMI
EEPROM
24LC32
A0h
I2C
MCU
8051
MTV512
UART
LED/KEY BD
IR BD
I2C
MUX
BALLASTER BD
EEPROM
24LC64
A0h
DDR Memory x2
K4D561638F
(16M X 16)
I2C
SCALER
PW320-10
PORT0
PORT1
Format BD control signal
24bit RGB
LVDS TX
THC63LVD103
LVDS
CNT
HD4
Formatter Board
FLASH
AM29LV160


AV1 Audio
(Y/PB/PR+CVBS+S-VIDEO)
AV2 Audio
(Y/PB/PR+CVBS+S-VIDEO)
AV3 Audio
(CVBS+S-VIDEO)
AV4 Audio
(CVBS+S-VIDEO)
AV5 Audio
(CVBS+S-VIDEO)
ATSC Audio
(Digital Tuner)
NTSC Audio
(Analog Tuner)
Audio Output
(HDMI)
AV6 Audio
(PC-VGA)
L/R
MUX
CXA2069Q
92h
MAIN L/R
SUB L/R
SIF
L/R
HDMI I2S
L/R
Audio
Processor
MSP4440G/K
80h
L/R
Power-Amp
TDA7264
15W x 2
Speaker 8 ohm
EARPHONE OUT
EAR-Amp
TDA1308

# Archer Main Board Schematics

## Contents


| Schematic | Sheet |
|---|---|
| Title page | 1 |
| Power & User interface | 2 |
| DTV interface & Input 1 - 4 | 3 |
| Input HD1~2 & HD MUX | 4 |
| Input VGA | 5 |
| Input HDMI Sil9011 | 6 |
| Upgrade Circuit | 7 |
| AV switch CXA2069 | 8 |
| 3D-Comb-filter | 9 |
| MST9883 ADC | 10 |
| SAA7117 Video Decoder A | 11 |
| PW320 Input & Display | 12 |
| PW320 MISC | 13 |
| PW320 Power | 14 |
| PW320 DDR Memory | 15 |
| Audio Processor | 16 |
| Master MCU | 17 |
| Thermal & MCU Latch | 18 |
| NOTES | 19 |
| | |


## Revision History

| Rev | Date | Creator | Comments |
|---|---|---|---|
| EVT | 05/11/2004 | Bright | |
| | | | |
| | | | |
| | | | |
| | | | |
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| | | | |
| | | | |
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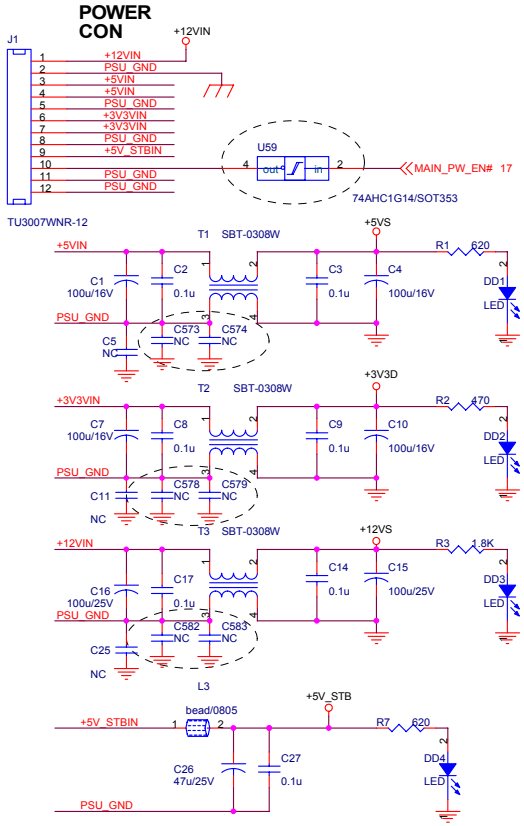
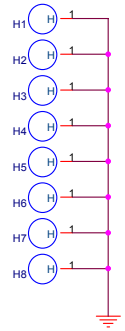
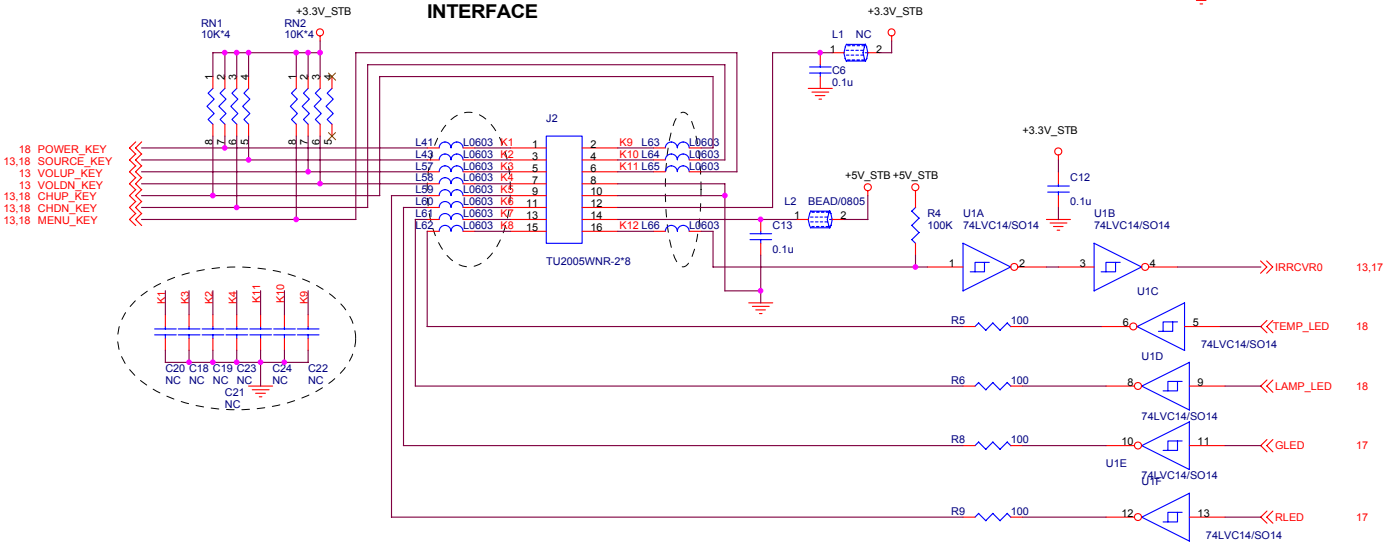
| | | | |
| | | | |

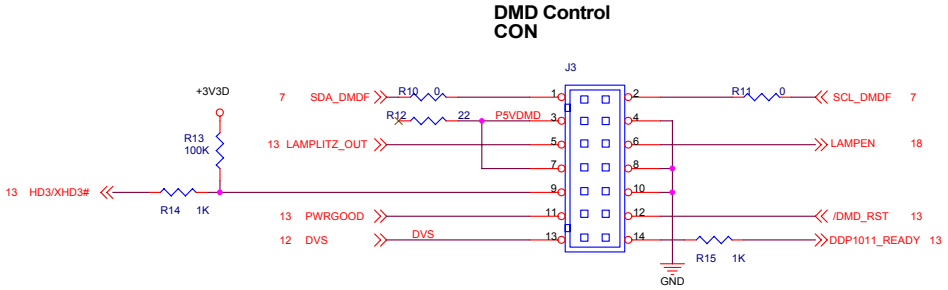



| Power Spec. | |
|---|---|
| | |
| +12V | 1.2A |
| +5V | 2.2A |
| +3.3V | 1A |
| +5V_STB | 0.5A |




MAIN BD Power switch will be turned on when
MAIN_PW_EN# is low
MAIN_PW_EN# default is "Hi"




HD3/XHD3# = HI connect to HD3
= LOW connect to XHD3

| +5_STB Supply Current (mA) | |
|---|---|
| MTV512 | 24 |
| | |
| | |
| TOTAL | 73 |

| +12V Supply Current (mA) | |
|---|---|
| MSP4440G(8V) | 25 |
| | |
| | |
| TOTAL | 25 |

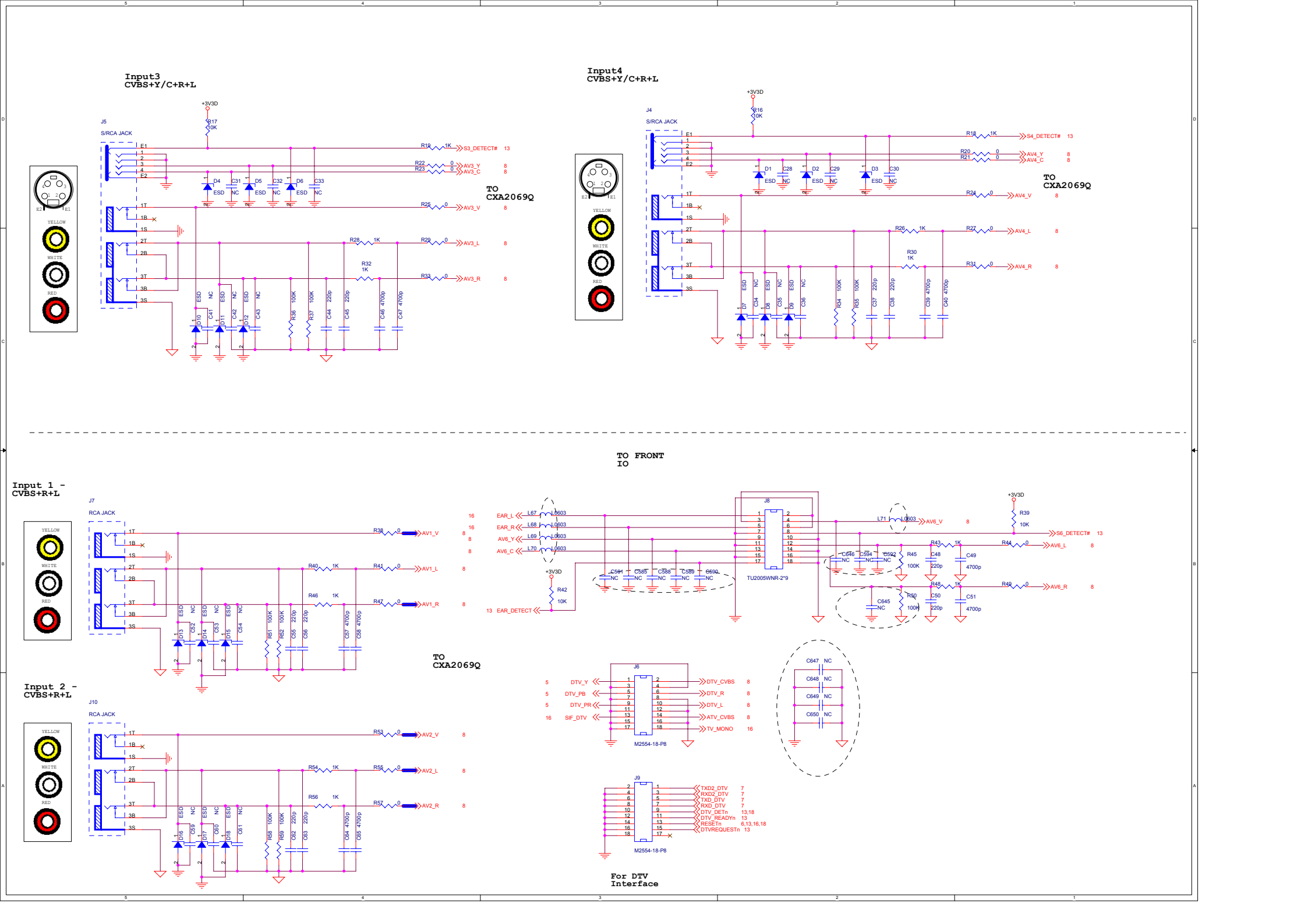
| +5VS Supply Current (mA) | |
|---|---|
| MST9883(3.3V) | 269 |
| SAA7117(3.3V) | 248.5 |
| Sil9011(3.3V) | |
| PW318(2.5V) | 600 |
| DDR(2.5V) | 260*2 |
| MSP4440K(5V) | 188 |
| | 210 |
| MAD4868A(5V) | 2.9 |
| | |
| | |
| TOTAL | 2378 |

| +3V3D Supply Current (mA) | |
|---|---|
| PW320(3.3&1.8V) | 900 |
| Sil9011(1.8V) | |
| SDRAM(3.3V) | 225 |
| SAA7117(1.8V) | 111*2 |
| Sil164(3.3V) | 110 |
| | |
| TOTAL | 1557 |

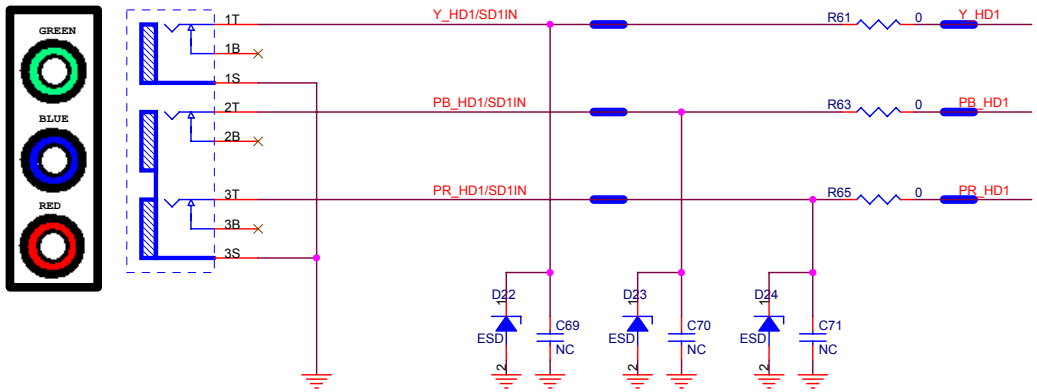
Title: Power & User interface

| Size | Document Number | Rev |
|---|---|---|
| B | | |

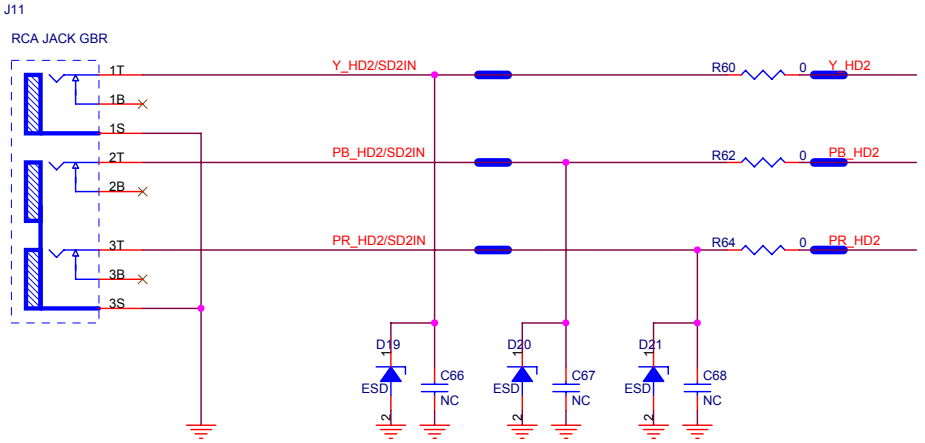
Date: Friday, May 13, 2005 Sheet 2 of 19


Input3
CVBS+Y/C+R+L
Input4
CVBS+Y/C+R+L
TO
CXA2069Q
TO
CXA2069Q
Input 1 -
CVBS+R+L
Input 2 -
CVBS+R+L
TO FRONT
IO
TO
CXA2069Q
For DTV
Interface
TU2005WNR-2*9
M2554-18-P8
M2554-18-P8

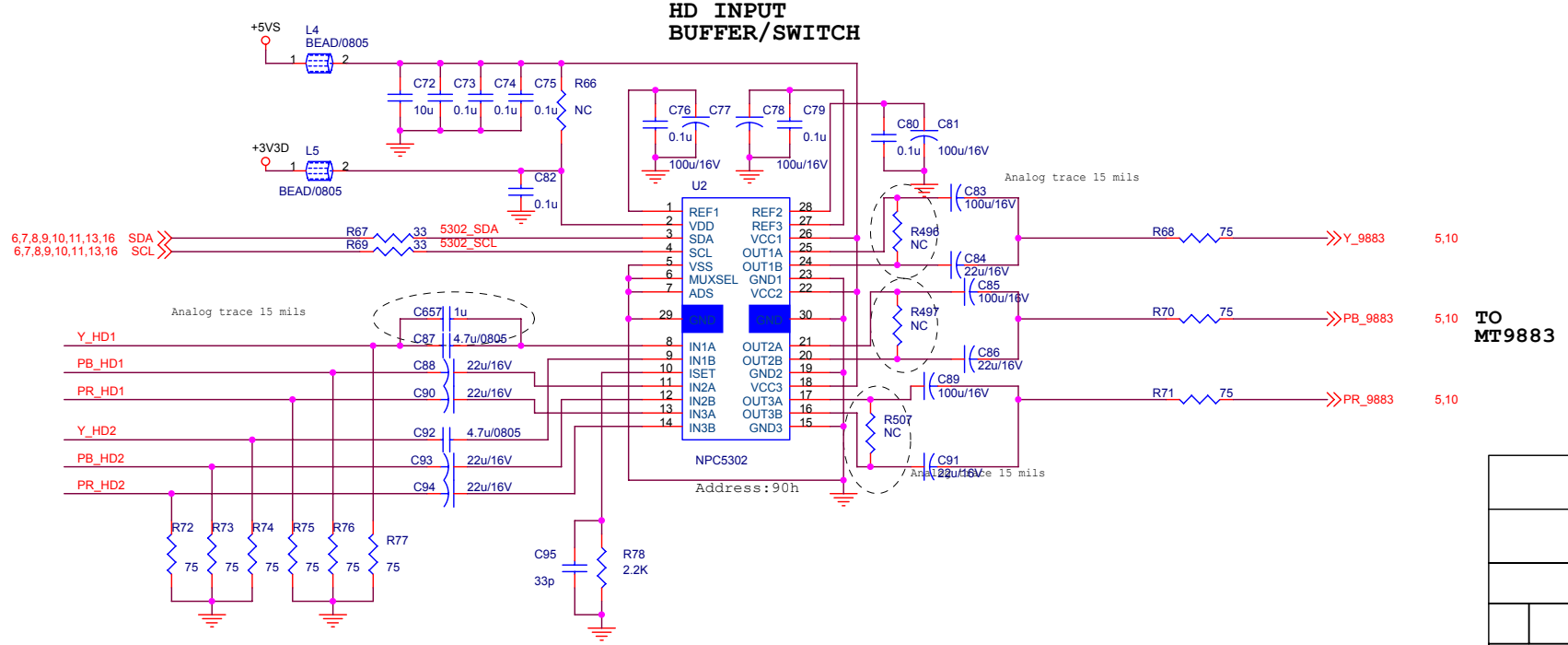
## Input1-HD1

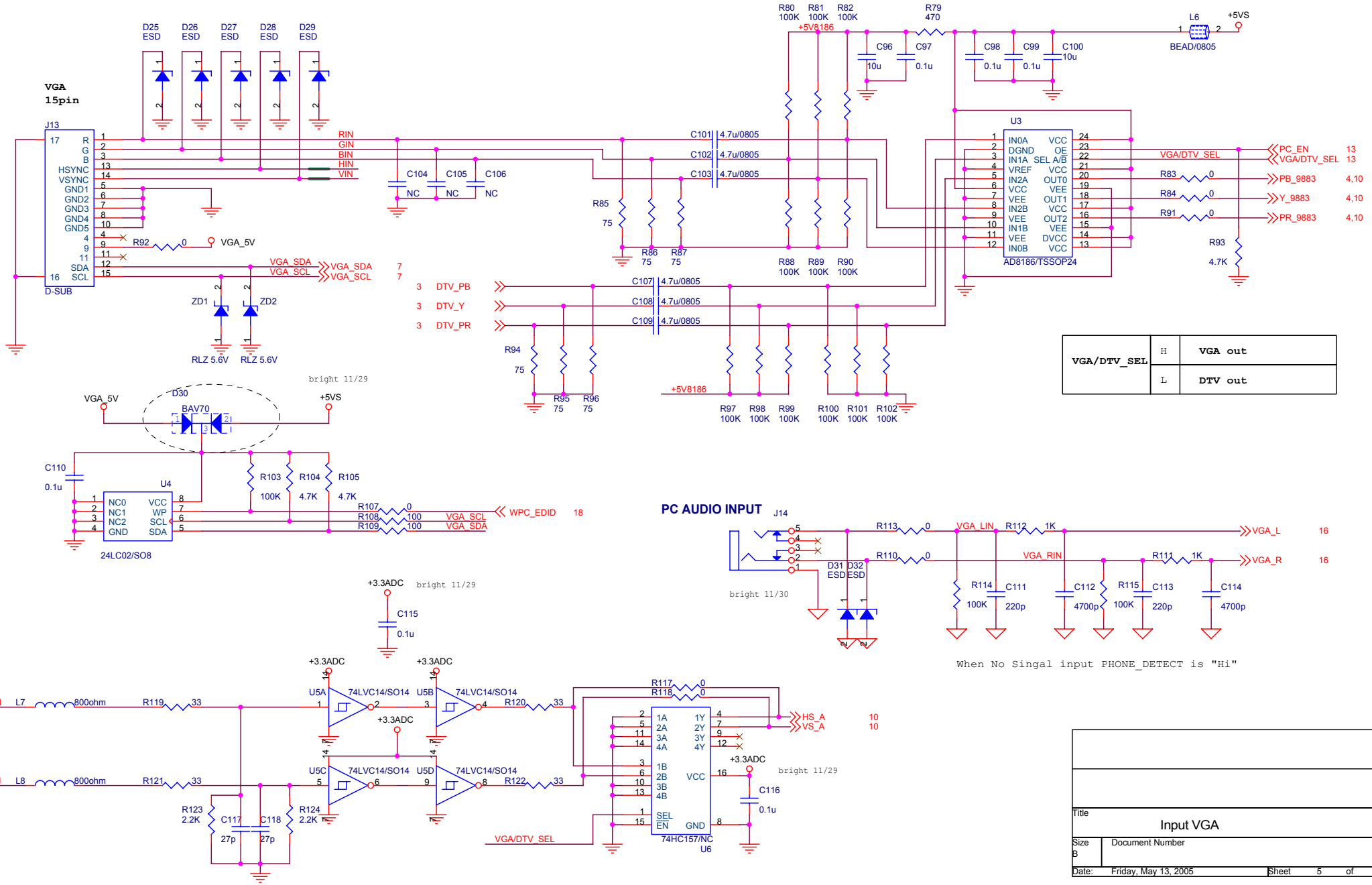


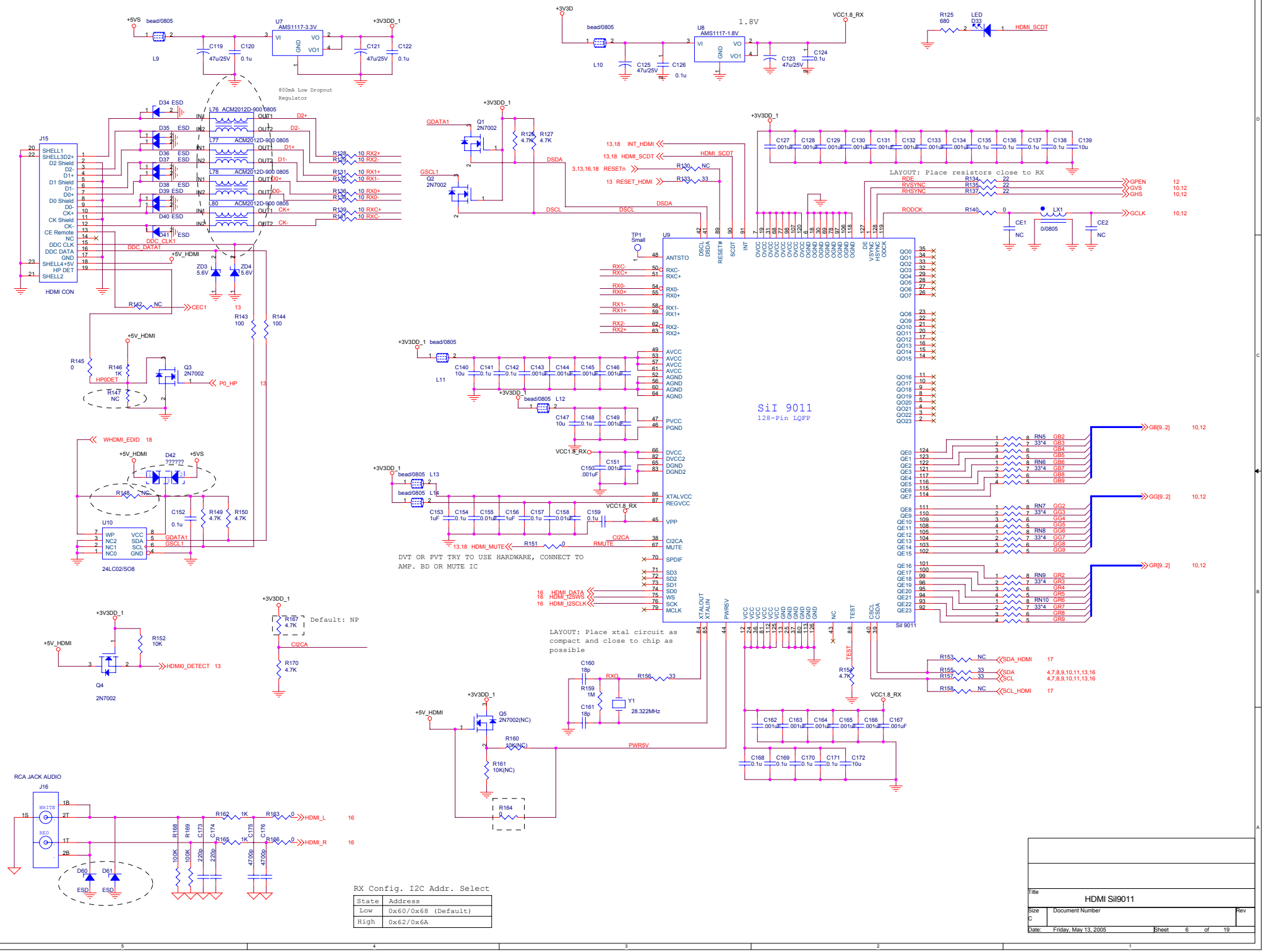

## Input2-HD2




## HD INPUT BUFFER/SWITCH



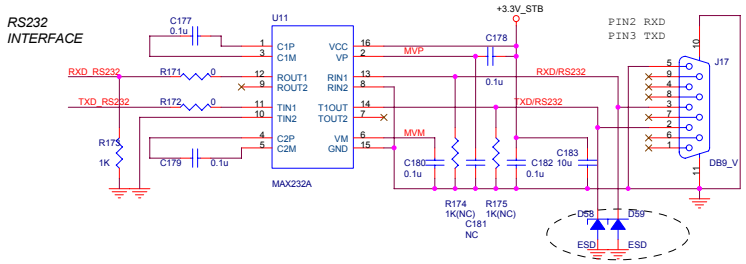

VGA
15pin
J13
D-SUB
D25 ESD
D26 ESD
D27 ESD
D28 ESD
D29 ESD
RIN
GIN
BIN
HIN
VIN
C104 NC
C105 NC
C106 NC
R92 0
VGA_5V
VGA_SDA
VGA_SCL
ZD1 RLZ 5.6V
ZD2 RLZ 5.6V
DTV_PB
DTV_Y
DTV_PR
R80 100K
R81 100K
R82 100K
+5V8186
R79 470
L6 BEAD/0805
+5VS
C96 10u
C97 0.1u
C98 0.1u
C99 0.1u
C100 10u
C101 4.7u/0805
C102 4.7u/0805
C103 4.7u/0805
R85 75
R86 75
R87 75
R88 100K
R89 100K
R90 100K
C107 4.7u/0805
C108 4.7u/0805
C109 4.7u/0805
R94 75
R95 75
R96 75
R97 100K
R98 100K
R99 100K
R100 100K
R101 100K
R102 100K
U3
AD8186/TSSOP24
VGA/DTV_SEL
PC_EN 13
VGA/DTV_SEL 13
R83 0
PB_9883 4,10
R84 0
Y_9883 4,10
R91 0
PR_9883 4,10
R93 4.7K
VGA/DTV_SEL H VGA out
L DTV out
bright 11/29
D30 BAV70
C110 0.1u
U4
24LC02/SO8
R103 100K
R104 4.7K
R105 4.7K
R107 0
R108 100
R109 100
WPC_EDID 18
PC AUDIO INPUT
J14
R113 0
R110 0
VGA_LIN
VGA_RIN
R112 1K
R111 1K
VGA_L 16
VGA_R 16
D31 ESD
D32 ESD
bright 11/30
R114 100K
C111 220p
C112 4700p
R115 100K
C113 220p
C114 4700p
When No Singal input PHONE_DETECT is "Hi"
+3.3ADC
C115 0.1u
HIN
L7 800ohm
R119 33
VIN
L8 800ohm
R121 33
U5A 74LVC14/SO14
U5B 74LVC14/SO14
U5C 74LVC14/SO14
U5D 74LVC14/SO14
R120 33
R122 33
R123 2.2K
C117 27p
C118 27p
R124 2.2K
R117 0
R118 0
HS_A 10
VS_A 10
U6 74HC157/NC
C116 0.1u
VGA/DTV_SEL
Title
Input VGA
Size B
Document Number
Rev
Date: Friday, May 13, 2005
Sheet 5 of 19


SiI 9011
128-Pin LQFP
HDMI CON
24LC02/SO8
RCA JACK AUDIO
800mA Low Dropout Regulator
1.8V
LAYOUT: Place resistors close to RX
LAYOUT: Place xtal circuit as compact and close to chip as possible
DVT OR PVT TRY TO USE HARDWARE, CONNECT TO AMP. BD OR MUTE IC
Default: NP
RX Config. I2C Addr. Select
State | Address
Low | 0x60/0x68 (Default)
High | 0x62/0x6A
Title
HDMI Sil9011
Size C
Document Number
Rev
Date: Friday, May 13, 2005
Sheet 6 of 19

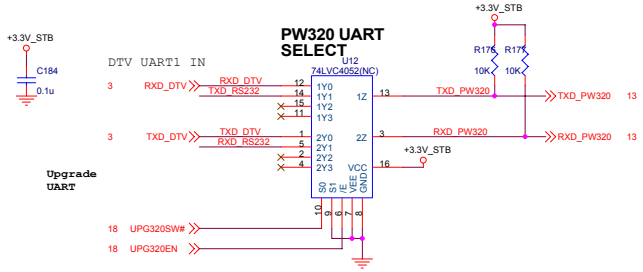
**Note : UPGRADE**

**RS232- mode UPGRADE - DTV & PW320**
**I2C-mode UPGRADE - MTV512 & DMD**

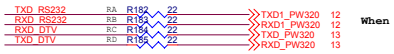
**UPGRADE Select GPIO pin normal is "Low"**




## PW320 UART SELECT

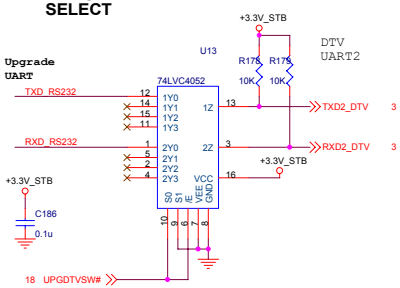



| PIN | TYPE | Mode | Comment |
|---|---|---|---|
| **UPG320SW#** | **H** | UPGRADE MODE | Upgrade PW320 |
| | **L** | NORMAL MODE | DTV SERIAL1 |
| UPG320EN | **H** | Disable | High-Impedance |
| | **L** | Enable | Z = Y |



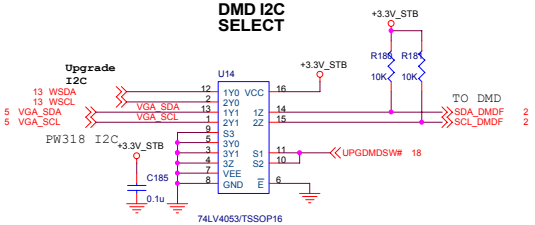

**When use PW318 RA~RD NC , Install U12**
**use PW320 RA~RD 22 , U12 NC**

## DTV UART SELECT




| PIN | TYPE | Mode | DTV UART2 connect |
|---|---|---|---|
| **UPGDTVSW** | **H** | Disable | High-Impedance |
| | **L** | UPGRADE MODE | Upgrade DTV |

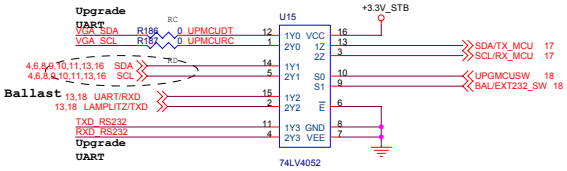
## DMD I2C SELECT




| PIN | TYPE | Mode | DMD I2C connect |
|---|---|---|---|
| **UPGDMDSW** | **H** | UPGRADE MODE | Upgrade I2C |
| | **L** | NORMAL MODE | PW318 I2C |

## MCU UART SELECT

Ballast UART or EXT-RS232




| BAL/EXT232_SW | UPGMCUSW | Mode | MCU UART connect |
|---|---|---|---|
| **L** | **L** | UPGRADE MODE | Upgrade UART or I2C |
| **L** | **H** | NORMAL MODE | |
| **H** | **L** | TO BALLAST UART MODE | Ballast UART |
| **H** | **H** | External RS232 control | Ext_RS232 |

**NORMAL MODE**

| Chip | Connect to | Contral Pin | SET | Contral by |
|---|---|---|---|---|
| **PW320 UART** | **PW320 UART SELECT** | UPG320SW | L | **MTV512** |
| | | UPG320EN | L | |
| **DTV Module** | **DTV UART SELECT** | **UPGDTVSW** | **L** | **MTV512** |
| **MTV512-I2C/UART** | **BALLAST/EXT-RS232** | **UPGMCUSW** | **H** | **MTV512** |
| | | **BAL/EXT232_SW** | **H/L** | |
| **DMD** | **PW320 W-I2C** | **UPGDMDSW** | **L** | **MTV512** |

**UPGRADE PW320**

| Chip | Connect to | Contral Pin | SET | Contral by |
|---|---|---|---|---|
| **PW320 UART** | **UPG_RS232** | **UPG320SW** | **H** | **MTV512** |

**UPGRADE DTV**

| Chip | Connect to | Contral Pin | SET | Contral by |
|---|---|---|---|---|
| **DTV Module** | **UPG_RS232** | **UPGDTVSW** | **L** | **MTV512** |

**UPGRADE MCU**

| Chip | Connect to | Contral Pin | SET | Contral by |
|---|---|---|---|---|
| **MTV512-I2C/UART** | **VGA_I2C** | **UPGMCUSW** | **L** | **MTV512** |

**UPGRADE DMD**

| Chip | Connect to | Contral Pin | SET | Contral by |
|---|---|---|---|---|
| **DMD** | **UPG_I2C** | **UPGDMDSW** | **H** | **MTV512** |

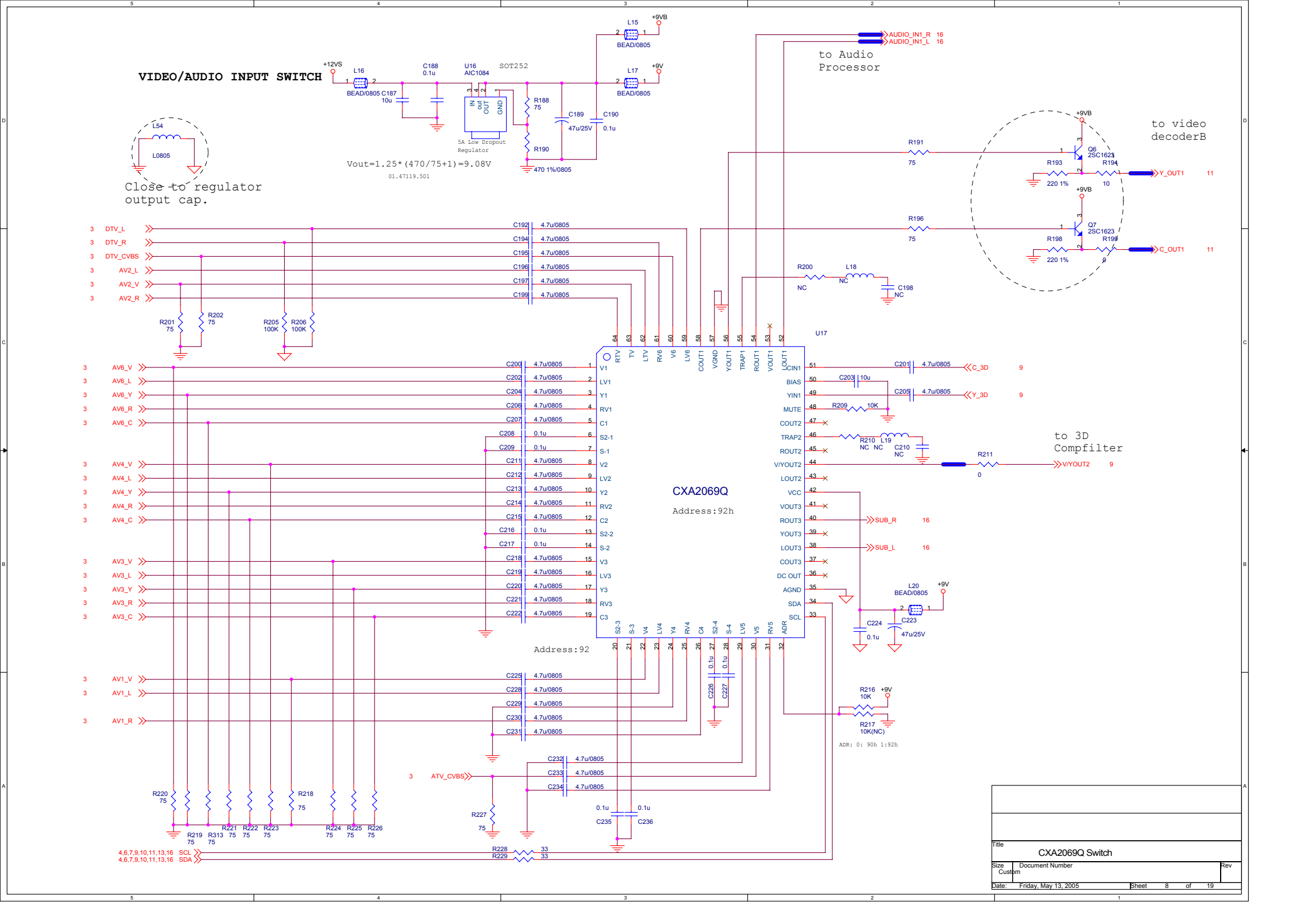
<Variant Name>

Title: Upgrade Circuit

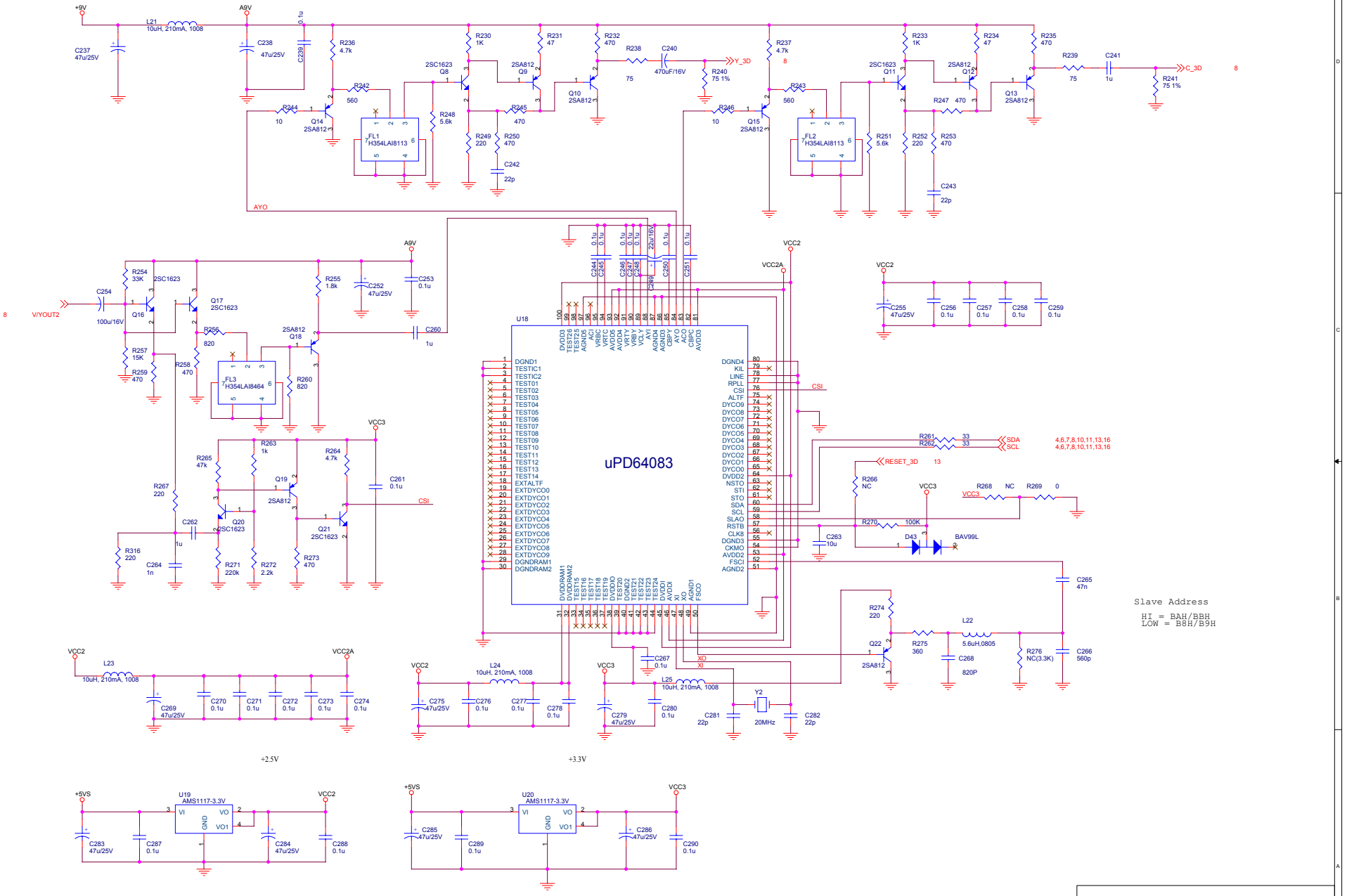
Size: C | Document Number | Rev

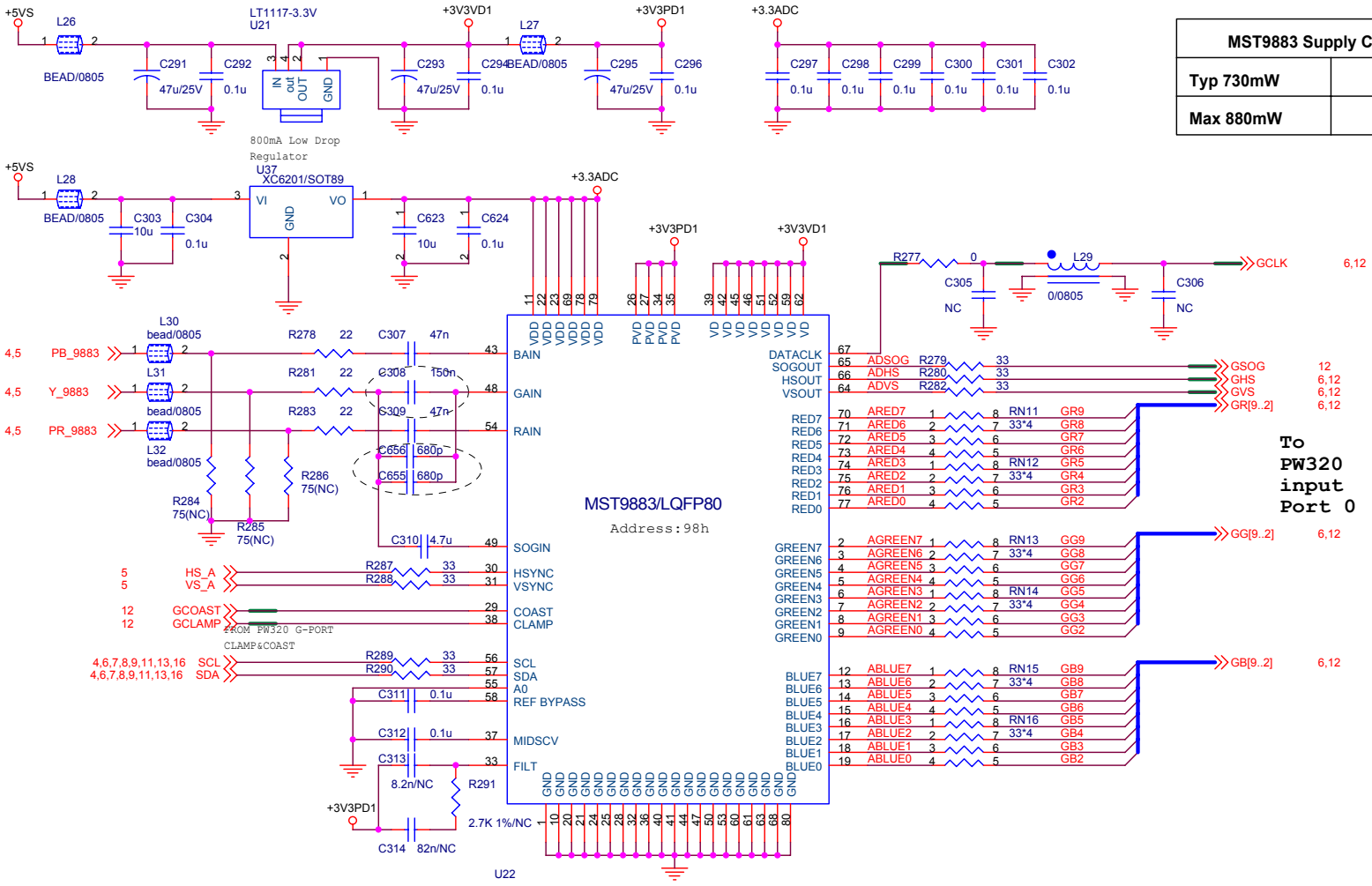
Date: Friday, May 13, 2005 | Sheet 7 of 19

# VIDEO/AUDIO INPUT SWITCH



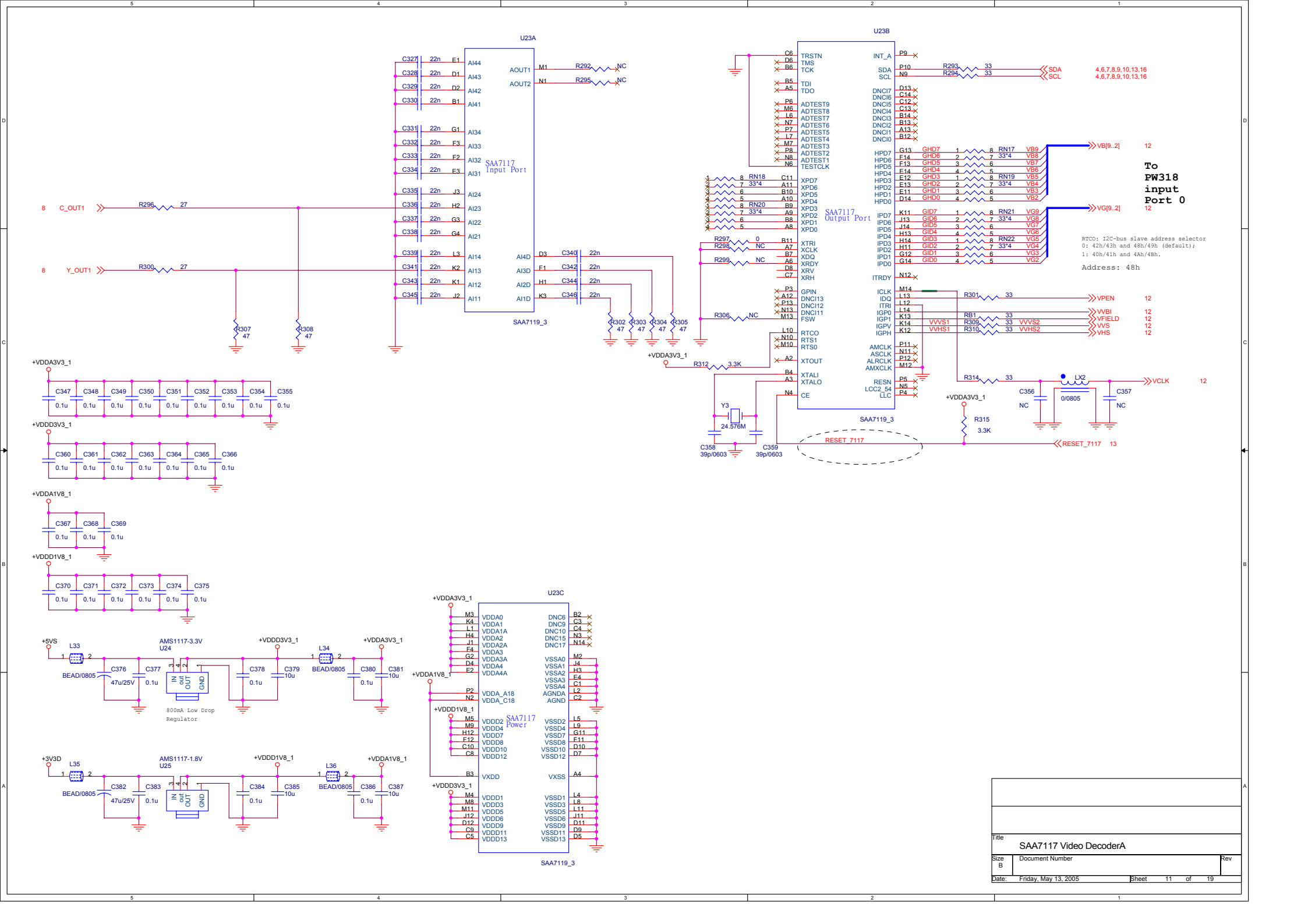

| | |
|---|---|
| Title | CXA2069Q Switch |
| Size | Custom |
| Document Number | |
| Rev | |
| Date: | Friday, May 13, 2005 |
| Sheet | 8 of 19 |


uPD64083
U18
+9V
A9V
L21
10uH, 210mA, 1008
C237
47u/25V
C238
47u/25V
C239
0.1u
R236
4.7k
R242
560
R244
10
Q14
2SA812
FL1
H354LAI8113
R248
5.6k
R249
220
R250
470
C242
22p
R230
1K
R231
47
R232
470
R238
75
C240
470uF/16V
R240
75 1%
Y_3D
Q8
2SC1623
Q9
2SA812
Q10
2SA812
R245
470
AYO
R237
4.7k
R243
560
R246
10
Q15
2SA812
FL2
H354LAI8113
R251
5.6k
R252
220
R253
470
C243
22p
R233
1K
R234
47
R235
470
R239
75
C241
1u
R241
75 1%
C_3D
Q11
2SC1623
Q12
2SA812
Q13
2SA812
R247
470
R254
33K
C254
100u/16V
Q16
2SC1623
Q17
2SC1623
R255
1.8k
C252
47u/25V
C253
0.1u
C260
1u
R256
820
Q18
2SA812
FL3
H354LAI8464
R257
15K
R258
470
R259
470
R260
820
V/YOUT2
R263
1k
R264
4.7k
R265
47k
R267
220
Q19
2SA812
Q20
2SC1623
Q21
2SC1623
C261
0.1u
CSI
C262
1u
C263
10u
C264
1n
R271
220k
R272
2.2k
R273
470
R316
220
C244
C245
C246
C247
C248
C249
C250
C251
22u/16V
C255
47u/25V
C256
0.1u
C257
0.1u
C258
0.1u
C259
0.1u
R261
R262
33
33
SDA
SCL
RESET_3D
13
R266
NC
R268
NC
R269
0
R270
100K
D43
BAV99L
C265
47n
R274
220
Q22
2SA812
L22
5.6uH,0805
R275
360
C268
820P
R276
NC(3.3K)
C266
560p
C267
0.1u
XO
XI
Y2
20MHz
C281
22p
C282
22p
L23
10uH, 210mA, 1008
C269
47u/25V
C270
0.1u
C271
0.1u
C272
0.1u
C273
0.1u
C274
0.1u
+2.5V
L24
10uH, 210mA, 1008
C275
47u/25V
C276
0.1u
C277
0.1u
C278
0.1u
L25
10uH, 210mA, 1008
C279
47u/25V
C280
0.1u
+3.3V
U19
AMS1117-3.3V
+5VS
C283
47u/25V
C287
0.1u
C284
47u/25V
C288
0.1u
U20
AMS1117-3.3V
C285
47u/25V
C289
0.1u
C286
47u/25V
C290
0.1u
Slave Address
HI = BAH/BBH
LOW = B8H/B9H
Title
3D-Comb-filter
Size
C
Document Number
Rev
Date: Friday, May 13, 2005
Sheet 9 of 19




| MST9883 Supply Current | |
|---|---|
| Typ 730mW | 221 mA |
| Max 880mW | 269 mA |

| | |
|---|---|
| Title | MST9883A ADC A |
| Size B | Document Number |
| Rev | DVT |
| Date: | Friday, May 13, 2005 |
| Sheet | 10 of 19 |


U23A
SAA7117
Input Port
SAA7119_3
U23B
SAA7117
Output Port
SAA7119_3
U23C
SAA7117
Power
SAA7119_3
To
PW318
input
Port 0
RTCO: I2C-bus slave address selector
0: 42h/43h and 48h/49h (default);
1: 40h/41h and 4Ah/4Bh.
Address: 48h
800mA Low Drop
Regulator
AMS1117-3.3V
U24
AMS1117-1.8V
U25
SAA7117 Video DecoderA
Size
B
Document Number
Rev
Date: Friday, May 13, 2005
Sheet 11 of 19

**Format BD interface**

To format BD
LVDS OUT(30/60 bits)
1080i/1080P

PORT-0

PORT-1

| | Signal format | To PW320 input port |
|---|---|---|
| Sii9011 | 24-bit YUV/RGB | PORT-0 |
| MTS9883 | 24-bit RGB | PORT-0 |
| SAA7117A | 16-bit YUV | PORT-1 |

For
PW320
UART01

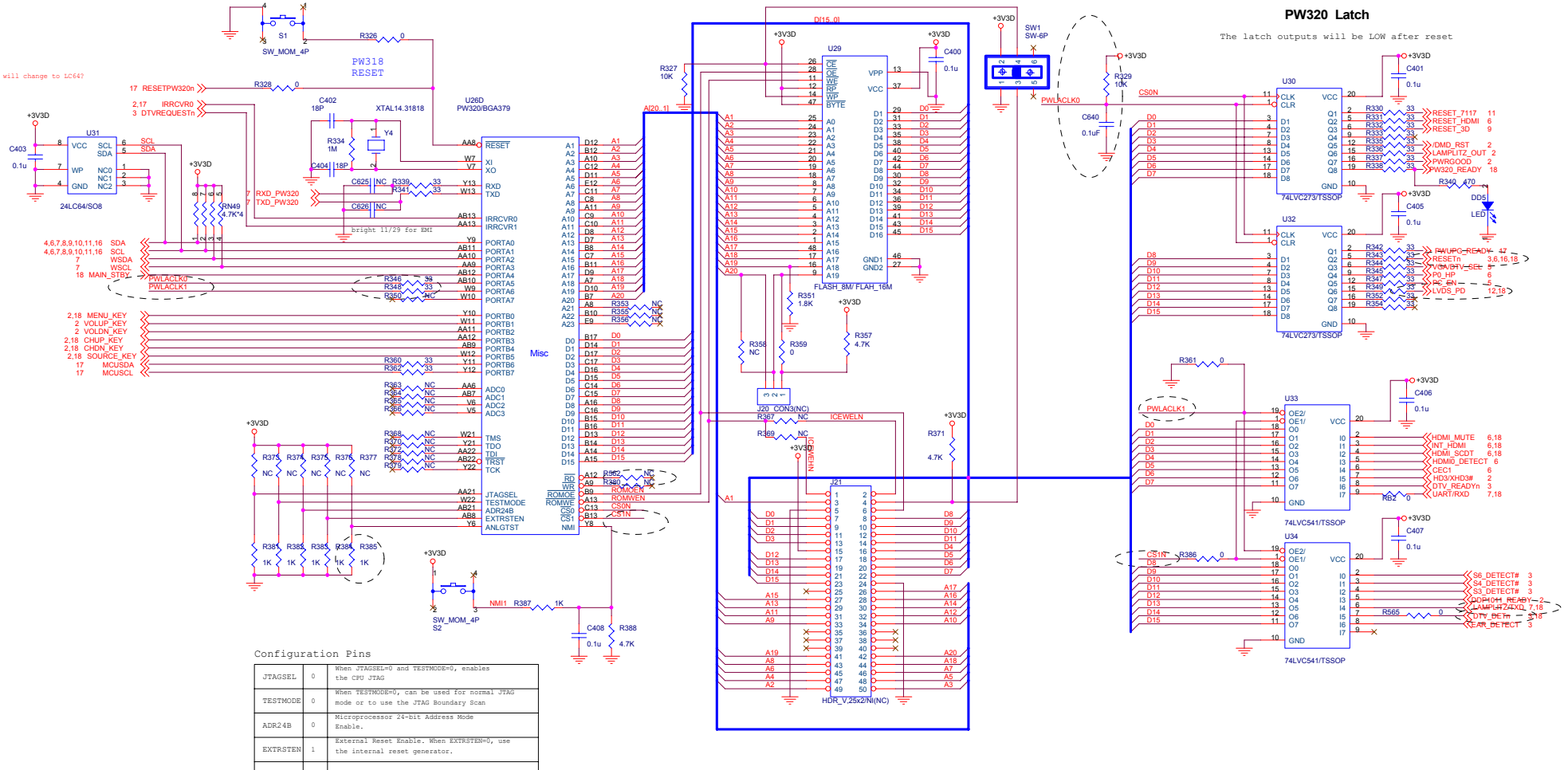
bright 11/29 for EMI

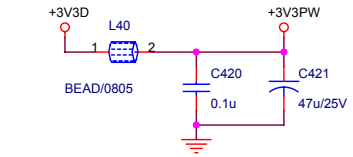
800mA Low Dropout
Regulator

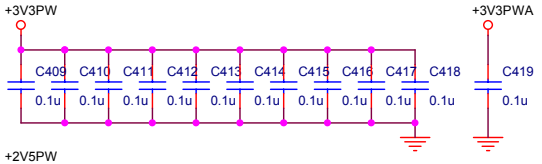
SINGLE
PIXEL
1080i

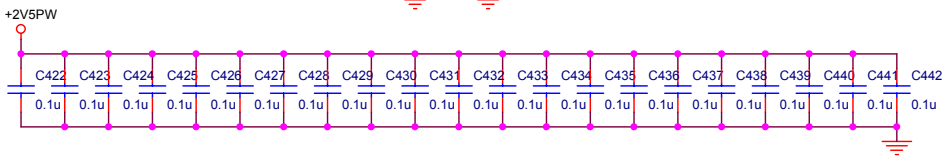
SINGLE
PIXEL
1080i

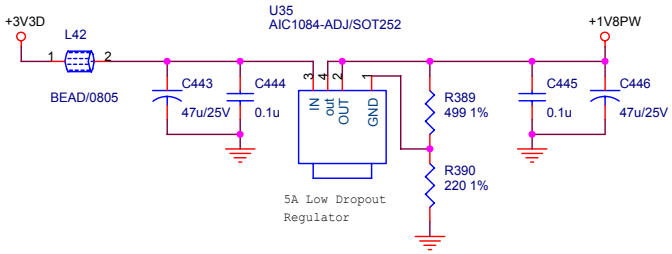
| | |
|---|---|
| Title | PW320 Input & Display |
| Size | C |
| Document Number | |
| Rev | |
| Date: | Friday, May 13, 2005 |
| Sheet | 12 of 19 |

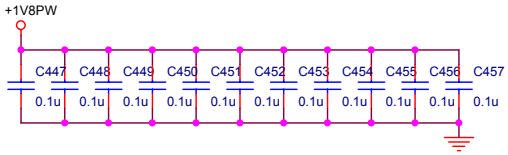

PW320 Latch
The latch outputs will be LOW after reset
PW318 RESET
will change to LC64?
U26D PW320/BGA379
Misc
U29
FLASH_8M/ FLAH_16M
U30
U32
U33
U34
74LVC273/TSSOP
74LVC541/TSSOP
24LC64/SO8
SW_MOM_4P
XTAL14.31818
J20_CON3(NC)
J21
HDR_V_25x2/N(NC)
Configuration Pins
JTAGSEL 0 When JTAGSEL=0 and TESTMODE=0, enables the CPU JTAG
TESTMODE 0 When TESTMODE=0, can be used for normal JTAG mode or to use the JTAG Boundary Scan
ADR24B 0 Microprocessor 24-bit Address Mode Enable.
EXTRSTEN 1 External Reset Enable. When EXTRSTEN=0, use the internal reset generator.
Above pins all are ID (input with pull-down)
PW320 MISC
Friday, May 13, 2005
Sheet 13 of 19

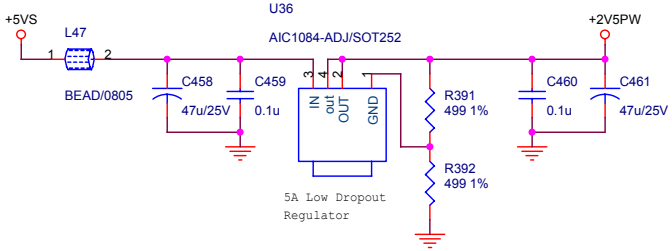


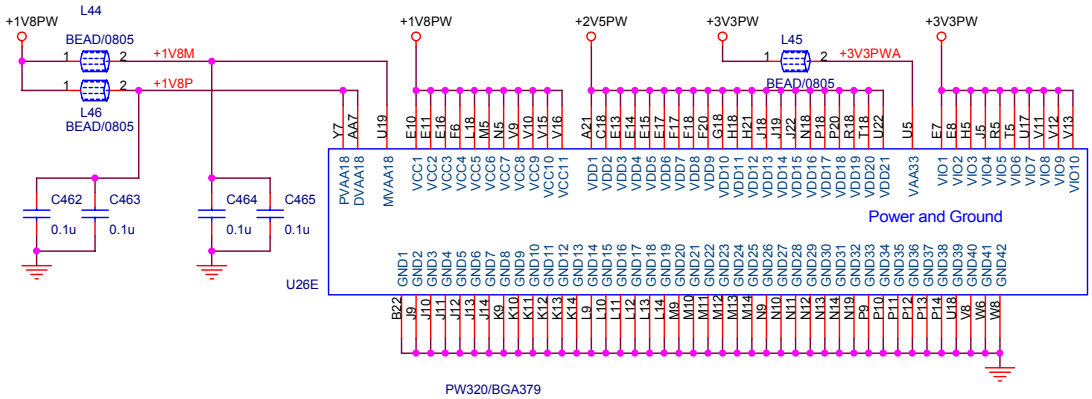



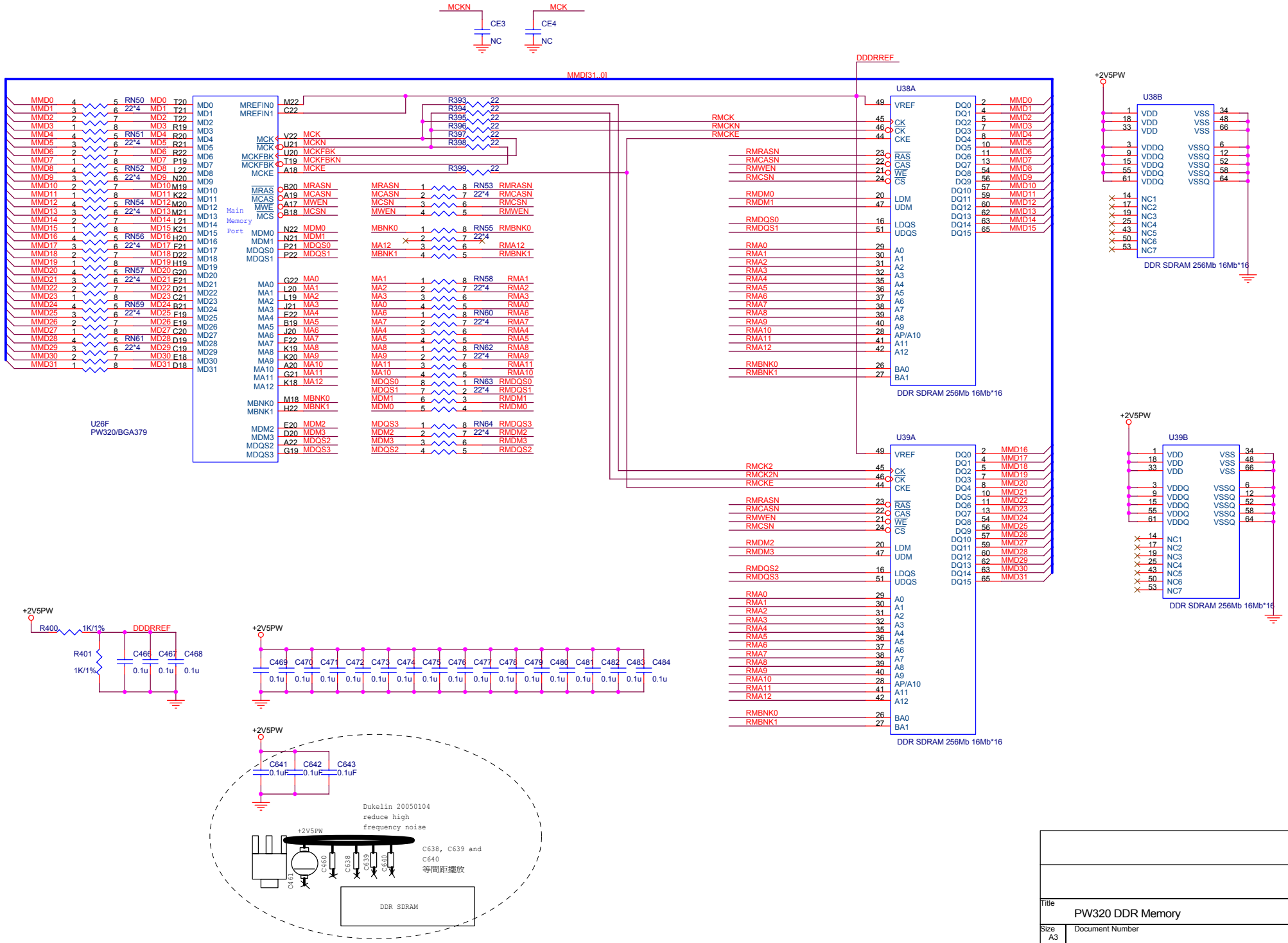




| PW320 Supply Current | |
|---|---|
| +1V8PW | 800 mA |
| +2V5PW | 600 mA |
| +3V3PW | 100 mA |

| | | |
|---|---|---|
| Title: PW320 Power | | |
| Size: A | Document Number | Rev |
| Date: Friday, May 13, 2005 | Sheet 14 of 19 | |


MCKN
CE3
NC
MCK
CE4
NC
DDDRREF
MMD[31..0]
U26F
PW320/BGA379
Main Memory Port
U38A
U38B
U39A
U39B
DDR SDRAM 256Mb 16Mb*16
+2V5PW
R400 1K/1% DDDRREF
R401 1K/1%
C466 C467 C468 0.1u
C469 C470 C471 C472 C473 C474 C475 C476 C477 C478 C479 C480 C481 C482 C483 C484 0.1u
C641 C642 C643 0.1uF
Dukelin 20050104
reduce high
frequency noise
C638, C639 and
C640
等間距擺放
DDR SDRAM
Title
PW320 DDR Memory
Size A3
Document Number
Rev
Date: Friday, May 13, 2005
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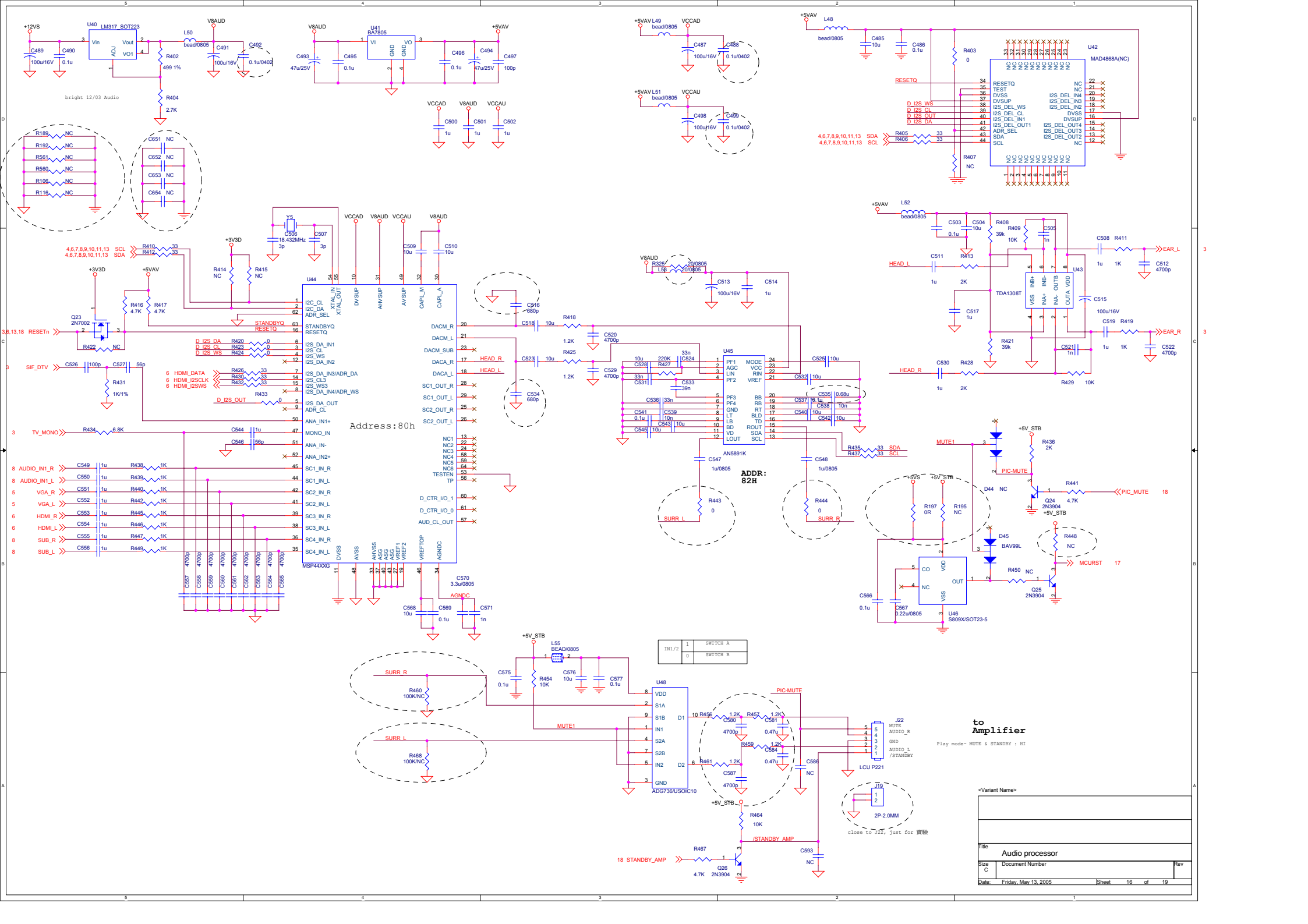
+12VS
U40 LM317_SOT223
Vin
Vout
ADJ
VO1
C489 100u/16V
C490 0.1u
R402 499 1%
R404 2.7K
L50 bead/0805
V8AUD
C491 100u/16V
C492 0.1u/0402
bright 12/03 Audio
U41 BA7805
VI
GND
VO
C493 47u/25V
C495 0.1u
C496 0.1u
C494 47u/25V
C497 100p
C500 1u
C501 1u
C502 1u
VCCAD
VCCAU
+5VAV
L49 bead/0805
C487 100u/16V
C488 0.1u/0402
L51 bead/0805
C498 100u/16V
C499 0.1u/0402
L48 bead/0805
C485 10u
C486 0.1u
R403 0
U42 MAD4868A(NC)
RESETQ
TEST
DVSS
DVSUP
I2S_DEL_WS
I2S_DEL_CL
I2S_DEL_IN1
I2S_DEL_OUT1
ADR_SEL
SDA
SCL
I2S_DEL_IN4
I2S_DEL_IN3
I2S_DEL_IN2
I2S_DEL_OUT4
I2S_DEL_OUT3
I2S_DEL_OUT2
D_I2S_WS
D_I2S_CL
D_I2S_OUT
D_I2S_DA
4,6,7,8,9,10,11,13 SDA
4,6,7,8,9,10,11,13 SCL
R405 33
R406 33
R407 NC
R189 NC
R192 NC
R561 NC
R560 NC
R106 NC
R116 NC
C651 NC
C652 NC
C653 NC
C654 NC
Y5 18.432MHz
C506 3p
C507 3p
+3V3D
R414 NC
R415 NC
R410 33
R412 33
4,6,7,8,9,10,11,13 SCL
4,6,7,8,9,10,11,13 SDA
C509 10u
C510 10u
U44
I2C_CL
I2C_DA
ADR_SEL
STANDBYQ
RESETQ
I2S_DA_IN1
I2S_CL
I2S_WS
I2S_DA_IN2
I2S_DA_IN3/ADR_DA
I2S_CL3
I2S_WS3
I2S_DA_IN4/ADR_WS
I2S_DA_OUT
ADR_CL
ANA_IN1+
MONO_IN
ANA_IN-
ANA_IN2+
SC1_IN_R
SC1_IN_L
SC2_IN_R
SC2_IN_L
SC3_IN_R
SC3_IN_L
SC4_IN_R
SC4_IN_L
XTAL_IN
XTAL_OUT
DVSUP
AHVSUP
AVSUP
CAPL_M
CAPL_A
DACM_R
DACM_L
DACM_SUB
DACA_R
DACA_L
SC1_OUT_R
SC1_OUT_L
SC2_OUT_R
SC2_OUT_L
NC1
NC2
NC3
NC4
NC5
NC6
TESTEN
TP
D_CTR_I/O_1
D_CTR_I/O_0
AUD_CL_OUT
DVSS
AVSS
AHVSS
ASG
VREF1
VREF2
VREFTOP
AGNDC
MSP44XXG
Address:80h
Q23 2N7002
R422 NC
R416 4.7K
R417 4.7K
STANDBYQ
RESETQ
18,13,18 RESETn
D_I2S_DA R420 0
D_I2S_CL R423 0
D_I2S_WS R424 0
D_I2S_OUT R433 0
6 HDMI_DATA R426 33
6 HDMI_I2SCLK R430 33
6 HDMI_I2SWS R432 33
3 SIF_DTV C526 100p C527 56p R431 1K/1%
3 TV_MONO R434 6.8K
C544 1u
C546 56p
8 AUDIO_IN1_R C549 1u R438 1K
8 AUDIO_IN1_L C550 1u R439 1K
5 VGA_R C551 1u R440 1K
5 VGA_L C552 1u R442 1K
6 HDMI_R C553 1u R445 1K
6 HDMI_L C554 1u R446 1K
8 SUB_R C555 1u R447 1K
8 SUB_L C556 1u R449 1K
C557 4700p
C558 4700p
C559 4700p
C560 4700p
C561 4700p
C562 4700p
C563 4700p
C564 4700p
C565 4700p
C516 680p
C518 10u R418 1.2K
C520 4700p
C523 10u R425 1.2K
C529 4700p
C534 680p
HEAD_R
HEAD_L
C570 3.3u/0805
C568 10u
C569 0.1u
C571 1n
V8AUD
L55 BEAD/0805
C513 100u/16V
C514 1u
U45 AN5891K
PF1
AGC
LIN
PF2
PF3
PF4
GND
LT
LB
BD
VD
LOUT
MODE
VCC
RIN
VREF
BB
RB
RT
BLD
TD
ROUT
SDA
SCL
C524 220K
C528 10u
R427 33n
C531 33n
C533 39n
C536 33n
C539 10n
C541 0.1u
C543 10u
C545 10u
C525 10u
C532 10u
C535 0.68u
C537 3.3u
C538 10n
C540 10u
C542 10u
R435 33 SDA
R437 33 SCL
C547 1u/0805
C548 1u/0805
R443 0
R444 0
SURR_L
SURR_R
ADDR: 82H
U43 TDA1308T
VSS
INB+
INB-
INA+
INA-
OUTB
OUTA
VDD
L52 bead/0805
C503 0.1u
C504 10u
R408 39k
R409 10K
C505 1n
C508 1u
R411 1K
C512 4700p
EAR_L
HEAD_L
C511 1u
R413 2K
C515 100u/16V
C517 1u
C519 1u
R419 1K
C522 4700p
EAR_R
R421 39k
C521 1n
C530 1u
R428 2K
R429 10K
+5V_STB
MUTE1
R436 2K
PIC-MUTE
D44 NC
R441 4.7K
Q24 2N3904
PIC_MUTE 18
+5VS
R197 0R
R195 NC
D45 BAV99L
R448 NC
R450 NC
Q25 2N3904
MCURST 17
U46 S809X/SOT23-5
C566 0.1u
C567 0.22u/0805
IN1/2
1 SWITCH A
0 SWITCH B
L55 BEAD/0805
C575 0.1u
R454 10K
C576 10u
C577 0.1u
SURR_R
R460 100K/NC
SURR_L
R468 100K/NC
MUTE1
U48 ADG736/USOIC10
VDD
S1A
S1B
IN1
S2A
S2B
IN2
GND
D1
D2
PIC-MUTE
R456 1.2K
R457 1.2K
C580 4700p
C581 0.47u
R459 1.2K
C584 0.47u
R461 1.2K
C587 4700p
C586 NC
J22
MUTE
AUDIO_R
GND
AUDIO_L /STANDBY
LCU P221
J19
2P-2.0MM
close to J22, just for 實驗
R464 10K
/STANDBY_AMP
18 STANDBY_AMP
R467 4.7K
Q26 2N3904
C593 NC
to Amplifier
Play mode- MUTE & STANDBY : HI
<Variant Name>
Title
Audio processor
Size C
Document Number
Rev
Date: Friday, May 13, 2005
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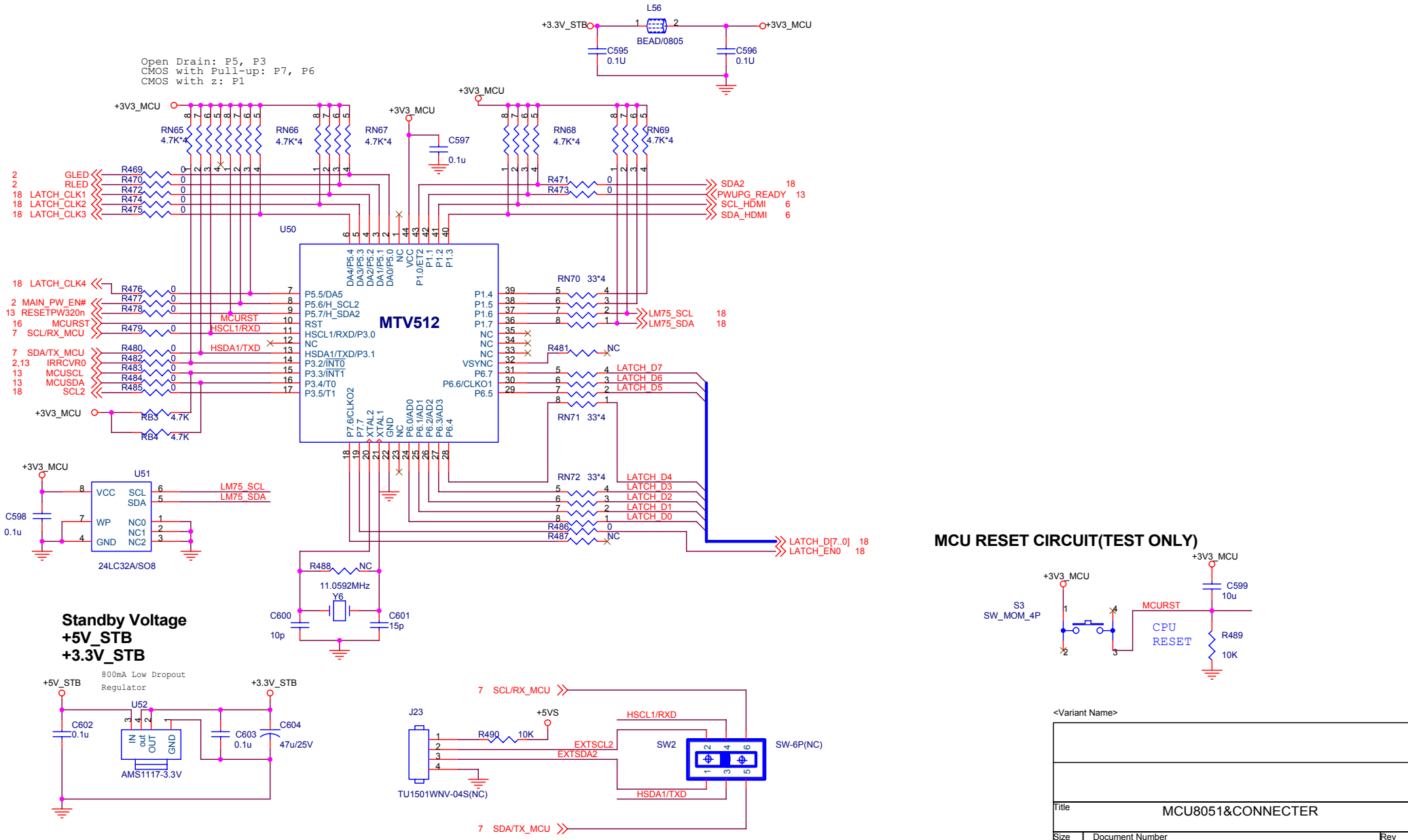
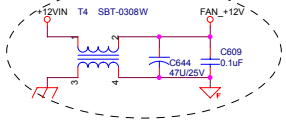


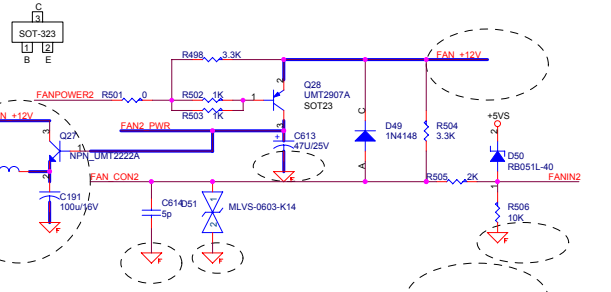

<Variant Name>

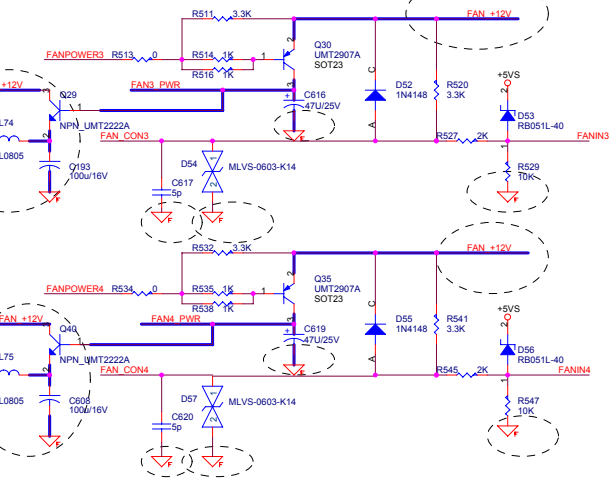
| | | |
|---|---|---|
| Title | MCU8051&CONNECTER | |
| Size B | Document Number | Rev |
| Date: Friday, May 13, 2005 | Sheet 17 of 19 | |

## FAN CONTRAL*3



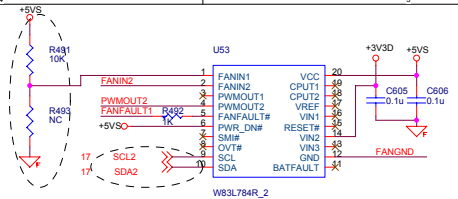

the wide wire means high power circuit.



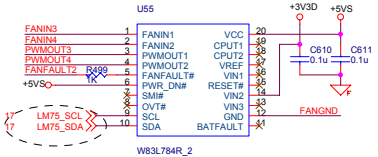



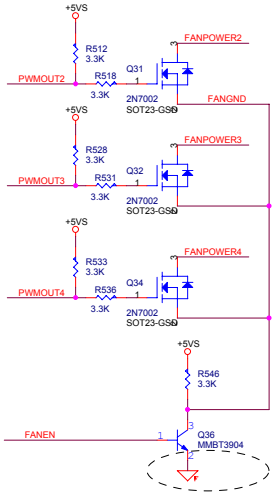






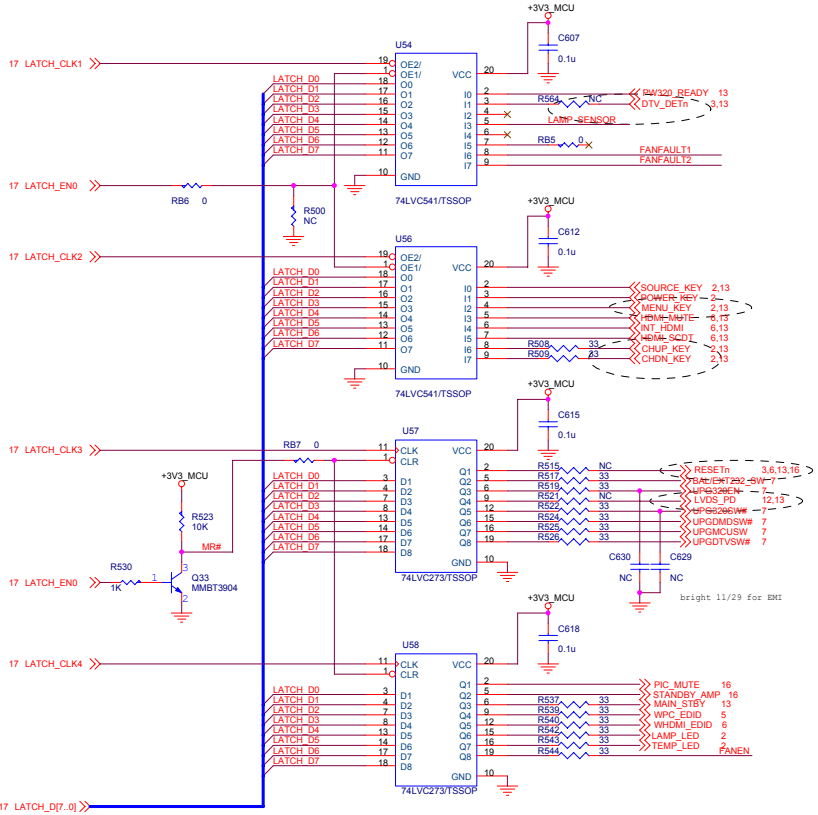

When FAN abnormal stoped FANFAULT# is "Low"



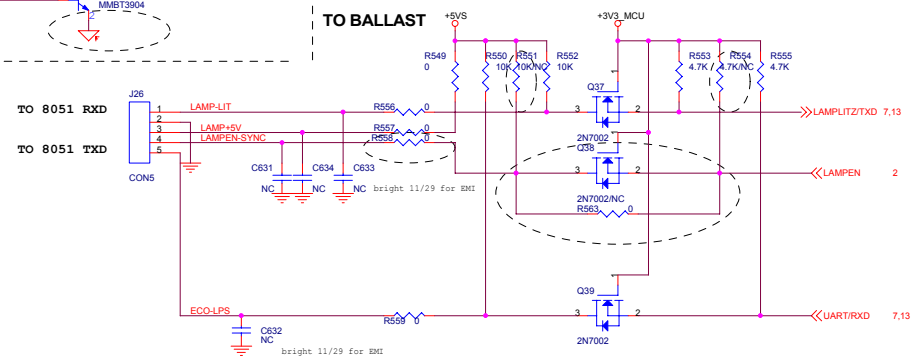



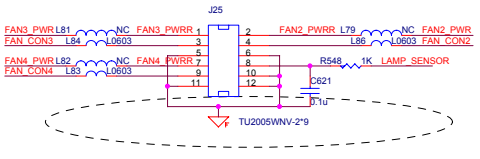

## MCU LATCH CIRCUIT

Reset -MR# to " Low"
Q1~Q8 default is "Low"




## TO BALLAST

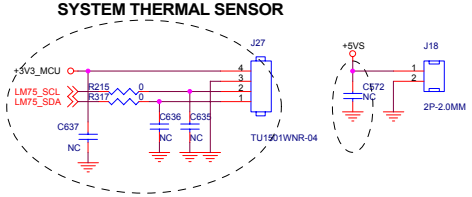



**LAMP THERMAL SWITCH**

| LAMP SENSOR | | |
|---|---|---|
| | H | LAMP FAIL |
| | L | LAMP OK |

## SYSTEM THERMAL SENSOR




RUBYCON_BALLAST SPEC

| Function | Shutdown | LPS | Normal-mode | Eco-mode |
|---|---|---|---|---|
| LAMPEN-SYNC | **HIGH** | HIGH | **LOW** | LOW |
| ECO-LPS | HIGH | LOW | HIGH | LOW |
| Power | 0W | 30W | 150W | 120W |
| LAMP-LIT | **HIGH** | LOW | **LOW** | LOW |

<Variant Name>

Title: FAN CONTRAL&THERMAL SENSOR

Size: C | Document Number | Rev

Date: Friday, May 13, 2005 | Sheet 18 of 19

**NOTE :** MTV512

| PIN | TYPE | DESCRIPION |
|---|---|---|
| INT_HDMI | I | HDMI contral (Reserve) |
| SDA_HDMI | O | HDMI contral (Reserve) |
| SCL_HDMI | O | HDMI contral (Reserve) |
| MAIN_PW_EN# | O | MAIN POWER switch(active low) |
| RLED | O | Red LED contral |
| GLED | O | Green LED contral |
| UPG320SW | O | UPGRADE PW320 SELECT |
| UPGDMDSW | O | UPGRADE DMD SELECT |
| UPGDTVSW | O | UPGRADE DTV SELECT |
| UPG320EN | O | UPGRADE PW320 Function disable |
| PIC-MUTE | O | Audio output MUTE contral(active low) |
| STANDBY_AMP | O | Audio BD Standby contral(Play mode is hi) |
| MAIN_STBY | O | Standby singal to PW320 |
| FANEN | O | FAN START WORK CONTRAL (active hi) |
| IRRCVR0 | I | REMOTE contral |
| PW320_READY | I | IC PW320 ASIC READY Singal |
| DTV_DETn | I | DTV detect (Reserve) |
| LAMP_SENSOR | I | BALLEST THERMAL SENSOR(fail is hi) |
| POWER_KEY | I | POWER KEY detect |
| FANFAULT 1,2 | I | FAN FAULT detect(FAN abnormal stoped is "Low") |
| RESETn | I | System RESET(active low) |
| BAL/EXT232_SW | I | BALLAST/EXTRS232 UART port select |
| HDMI_MUTE | I | HDMT AUDIO MUTE SIGNAL |
| LVDS_PD | O | LVDS POWER DOWN MODE |
| WPC_EDID | O | VGA EEPROM PROTECT |
| WHDMI_EDID | O | HDMI EEPROM PROTECT |
| LAMP_LED | O | LAMP FAIL LED SIGNAL |
| TEMP_LED | O | TEMP FAIL LED SIGNAL |
| | | |

**NOTE :** PW320

| PIN | TYPE | DESCRIPION |
|---|---|---|
| RESET _7117 | O | RESET SAA7117 Active low |
| RESET_HDMI | O | RESET SiI9011 Active low |
| RESET_3D | O | RESET UPC64083 Active low |
| /DMD_RST | O | RESET DMD BD |
| LAMPLITZ_OUT | O | LAMP READY |
| PWRGOOD | O | TO DMD BD |
| PW320_READY | O | IC PW320 ASIC READY Singal |
| PWUPG_READY | O | PW318 UPGRADE READY |
| VGA/DTV_SEL | O | VGA/DTV SELECT |
| P0_HP | O | HDMI CONTROL |
| PC_EN | O | AD8186 OUTPUT Disable |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**DTVREQUESTn** DTV module message request (active low)

**DTV_READYn** DTV module message ready (active low)

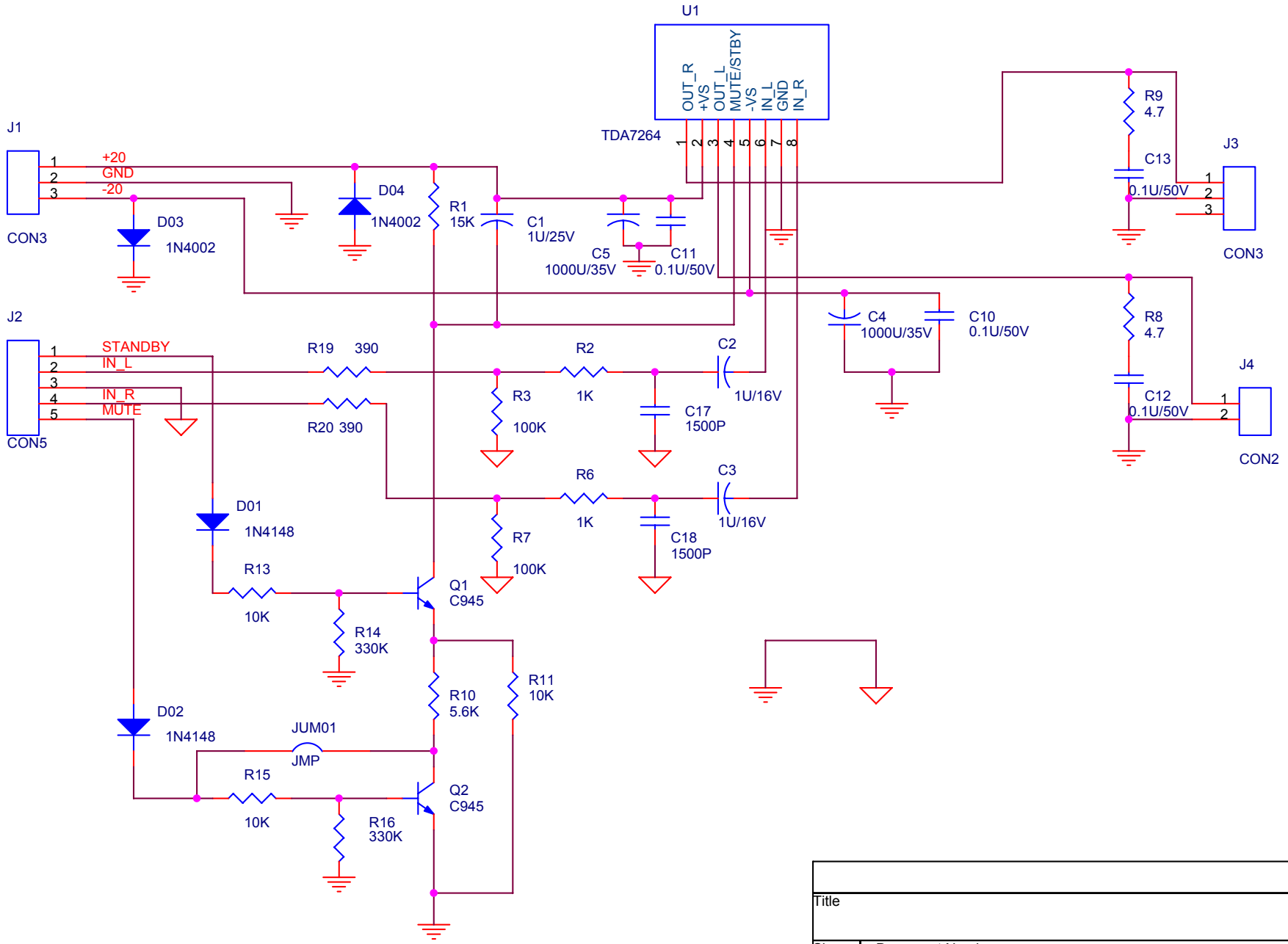
**UPG_ SOU_ SEL** UPGRADE source select(CSC1220&EXT CON)

**IRRCVR0** REMOTE contral

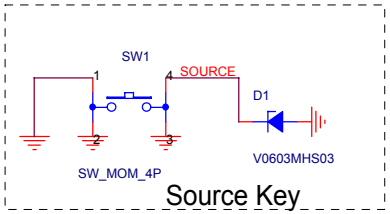
Title: Notes

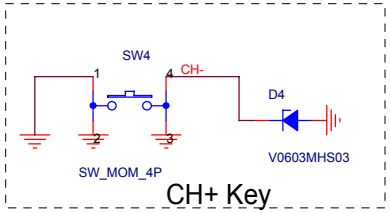
Size: A | Document Number | Rev

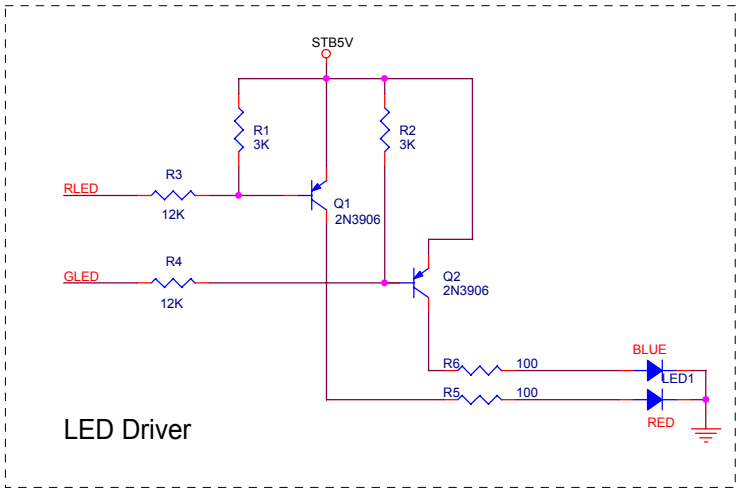
Date: Friday, May 13, 2005 | Sheet 19 of 19

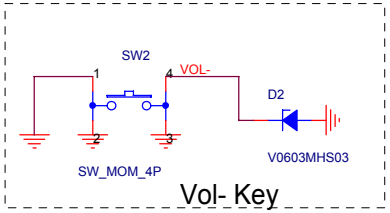


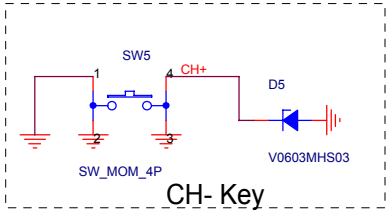

| | | |
|---|---|---|
| Title | | |
| Size A | Document Number | Rev |
| Date: Friday, September 03, 2004 | Sheet 1 of 1 | |

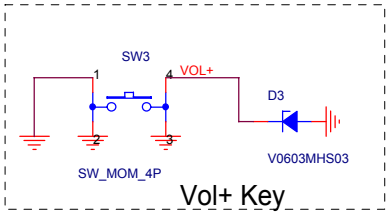


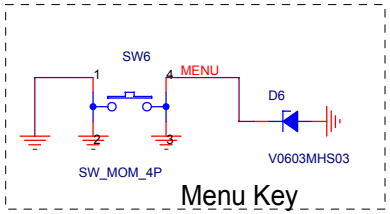



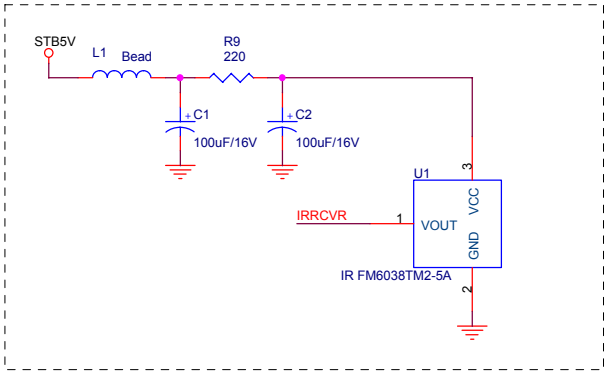



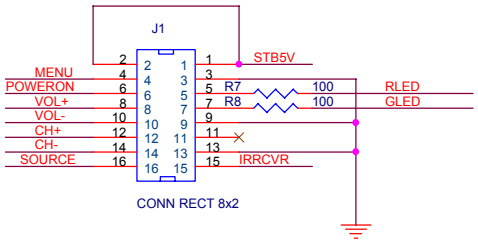



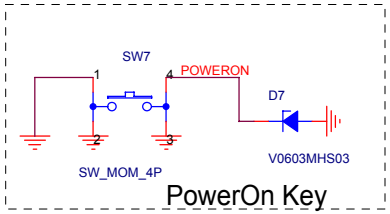



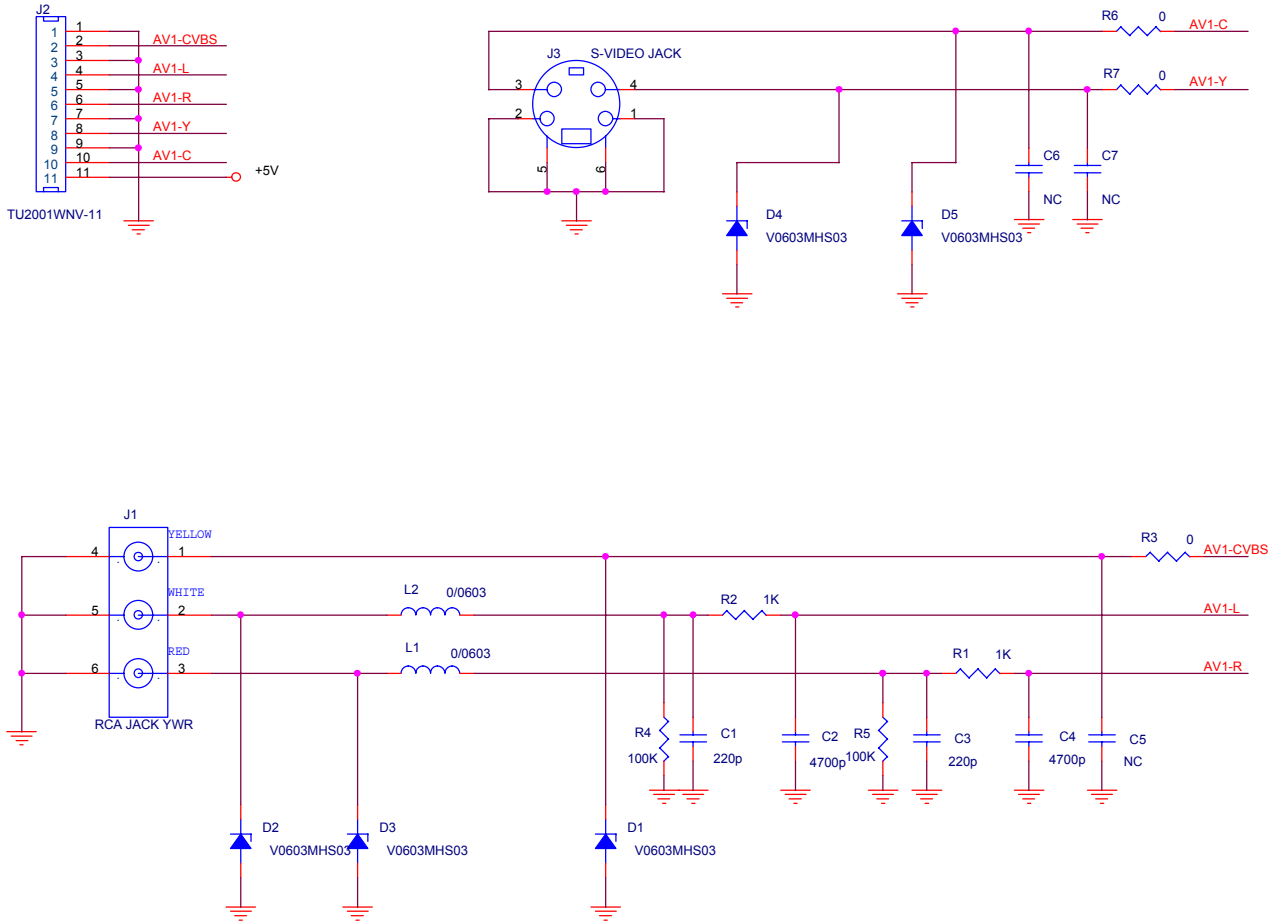




| | | |
|---|---|---|
| Title | 7 BUTTONS KEYPAD BOARD | |
| Size B | Document Number | Rev |
| Date: Thursday, August 19, 2004 | Sheet 1 of 1 | |




| | | |
|---|---|---|
| Title | FRONT IO BOARD | |
| Size B | Document Number | Rev |
| Date: Thursday, August 19, 2004 | Sheet 1 of 1 | |